

# **RESTHAVEN CEMETERY ASSESSMENT, CITY OF WASHINGTON, WILKES COUNTY, GEORGIA**



**Chicora Research Contribution 585**

Cover illustration shows the Toombs plot in Resthaven Cemetery.



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**Research Contribution 585**

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*Funded by the City of Washington and the Washington-Wilkes Historical Foundation*

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“I don't embrace excuses. I embrace solutions.”  
— Jon Taffer





## MANAGEMENT SUMMARY

This study was funded by the City of Washington and the Washington-Wilkes Historical Foundation. The field investigations were conducted from November 7 and 8, 2016. Report production followed immediately afterwards.

The study examines Washington's city cemetery, founded in 1857. It includes 41.1 acres, most of which has been developed, and it includes both African American and white citizens. It is included on the National Register of Historic Places as part of the Washington National Register Historic District.

A cemetery assessment is designed to help the cemetery caregivers to think about long-range preservation in a structured way, to better understand what is significant and why, and how it should be managed in order to preserve its historical significance and ensure the cemetery's preservation for future generations. Issues of access, roads, security, landscape maintenance, and monuments are examined. Current conditions are detailed and recommendations are offered.

The City Manager, the City's Cemetery Committee, and the Washington-Wilkes Historical Foundation are undoubtedly doing the best they can in caring for this valuable historic resource. Unfortunately, limited funds have crippled the cemetery and resulted in overall poor maintenance choices.

Both Georgia Code, 10-14-3-26 and Georgia Rules and Regulations 590-3-1-.01 very clearly state the level of care that the city is obligated under law to provide. Unfortunately, virtually none of these standards are currently being met.

Cemetery plots are being essentially given away for only \$100; there are no cemetery regulations; the roads are in deteriorating

condition; there is an abandoned maintenance shed on the property; there has been vandalism in the past that has gone unreported; there is inadequate, poorly trained, and improperly supervised prison labor doing most of the cemetery maintenance; mowing is inadequate; pruning is unprofessional and is damaging the landscape; trees have been allowed to deteriorate; trees have been removed from the landscape without replacement; many hose bibbs are inoperable; the cemetery reports significant drainage issues; there are many toppled or significantly tilted stones because there have never been appropriate specifications for setting; there are broken stones; and there are displaced stones.

This assessment has identified four critical preservation issues at Resthaven Cemetery. If these are ignored, public confidence will be further eroded and it will become increasingly difficult to save the cemetery from continued deterioration.

The first issue, which should be no surprise, is a need for additional funding. A small part of this funding should come from raising the cost of a cemetery plot to \$1,000. This is still below the Georgia average of \$1,367. Some additional funding will likely need to be provided by the Foundation. But, the bulk of the funding for a city cemetery must come from the city itself.

The second issue, which should also be no surprise, is the need for adequate staffing. The current staffing level is impossibly small and without additional, well trained, staff, maintenance improvements will be next to impossible. While the use of prison labor may provide seasonal labor, it is entirely inadequate as the major means of providing day-to-day maintenance. The cemetery should have a cemetery manager and a staff of nine landscape technicians. Although the number can be phased in, at least six are immediately necessary. These jobs must be year-round and must be

professional, trained individuals. These staff must also be provided with the tools to accomplish their jobs.

The third issue is the need to focus on the rehabilitation of the landscape, which has for years been largely ignored. As a result, there are a very large number of trees that have already been lost. An equally large number of trees are dead or in decline. Shrubs have been ignored to the point that they detract from the beauty of the landscape and recently have been made even more of an eyesore through improper pruning. The turf is poorly managed.

The fourth issue is the need to ensure the maintenance of infrastructure items such as roads, walls, drainage control, and erosion control – all of which have been ignored for a number of years. The maintenance cost of each item only increases as it is ignored, until eventually the replacement cost is realized to be astronomical. It is much easier to maintain than to replace and the city must begin taking responsibility for these issues.

Ignoring deterioration, whether it represents failing walls, corroding fences, or broken monuments, affects the entire cemetery, making it a less attractive place for the community, reducing the potential for future sales, and degrading its National Register eligibility. Moreover, it ignores that the city is steward of the *entire* Cemetery, holding and maintaining it for future generations. Simply put, after years of ignoring problems and deferring preservation activities, the city must take responsibility for the maintenance of the entire cemetery.

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# Introduction

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Resthaven Cemetery is located in the City of Washington, Georgia and was begun in 1857. It served as the area's first public cemetery for both white citizens and enslaved African Americans. Situated in south central Wilkes County, the city is the county seat for Wilkes in east central Georgia

along the southern border of the Southern Piedmont geological region. Situated on a terrace overlooking a tributary of Rocky Creek to the east, the cemetery topography varies from nearly level to strongly sloping. As the original section was filled, additional land was acquired to the east, west, and south. The cemetery continues in use today.

It is identified in tax records as two separate parcels. The larger, consisting of 35 acres, is W12-006. The smaller, with only 6.4 acres, is W11-098 and is in the southwest corner of the tract. Together, the cemetery contains an estimated 41.4 acres, the majority of which is developed.

There are reportedly at least 1,800 interments, although the total number is likely significantly higher since the city's records do not predate the early twentieth century. The website, <http://www.giddeon.com/wilkes/index.html> provides a list of 3,150 burials at the cemetery and this may be an excellent beginning point for additional recordation efforts.

In 2004 the Washington Historic District was created by combining 75 previously listed structures with additional resources, including the Resthaven Cemetery. The district includes 417 buildings, three sites, three structures, and one object that contribute to its significance. Relatively little detail is provided regarding the cemetery, although it is identified as,



Figure 1. Views of Resthaven Cemetery. At the top is the north entrance off Whitehall Street. At the bottom is the south entrance off Hospital Drive.

## INTRODUCTION

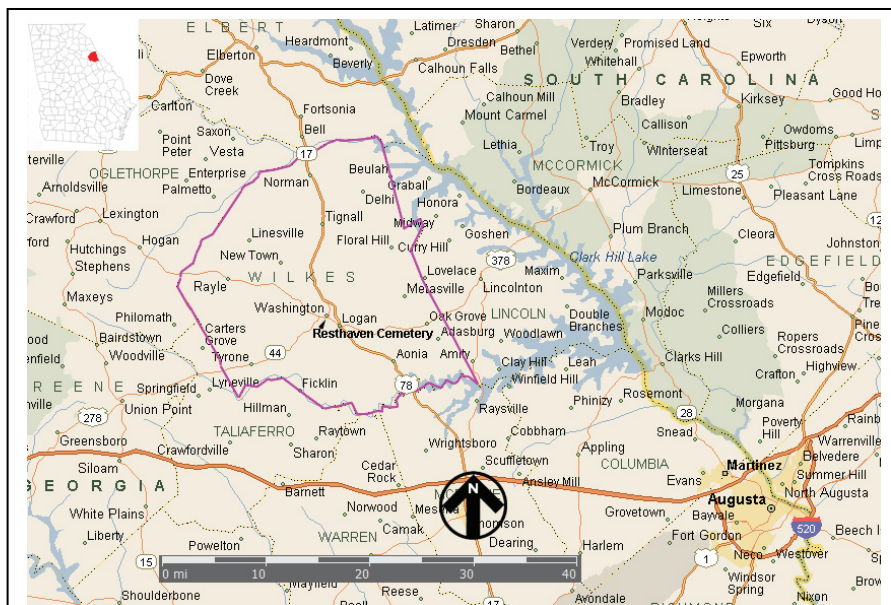


Figure 2. General location of Resthaven Cemetery in Wilkes County, Georgia.

An irregularly shaped parcel on primarily level ground. Entrances are located on the south side of Gordon Street (northern boundary) and the north side of Hospital Drive (southern boundary). The northern section contains the oldest graves and is organized in a somewhat irregular grid pattern. Three narrow paved paths run north-south through this part of the cemetery and there is also a gravel road running parallel to the railroad tracts along the cemetery's western border. The landscape pattern throughout is informal, composed of numerous mature hardwoods, cedars, and pines. The African-American section is located southwest of the cemetery's historic white section and is heavily wooded. The southern, nonhistoric section of the cemetery is open and contains

very few trees. Grave markers in the cemetery are typical of Georgia's city cemeteries, and flat slab, obelisks, and headstones are the common grave marker types. Some of the plots have ornamental cast iron fencing, which was common in the late 19<sup>th</sup> century (Washington Historic District National Register of Historic Places Registration Form, pg. 6).

This form hardly does the cemetery justice.

The co-occurrence of both white and black cemeteries is uncommon and the two being in such close proximity to one another at Resthaven provide an excellent opportunity to compare and contrast the cultural patterns and practices of the two groups. One mausoleum is present in the cemetery, helping to document the mercantile wealth of Washington, Georgia. The cemetery exhibits an exceptional range of ironwork, including examples from well-known manufactures, such as Stewart Iron Works. Both cast iron and mild steel examples are present. Ironwork is even present in the African American section. What is even more unique is that virtually all of these fences retain their gates and most are in good condition. While granite dominates the cemetery, there are notable examples of marble, including the Robert Toombs obelisk. The burial monuments reflect funerary traditions from the mid-nineteenth century through the present day. Architectural styles such as Greek Revival, Gothic Revival, High Victorian Gothic, and Egyptian Revival are found.

The historic core of the cemetery exhibits



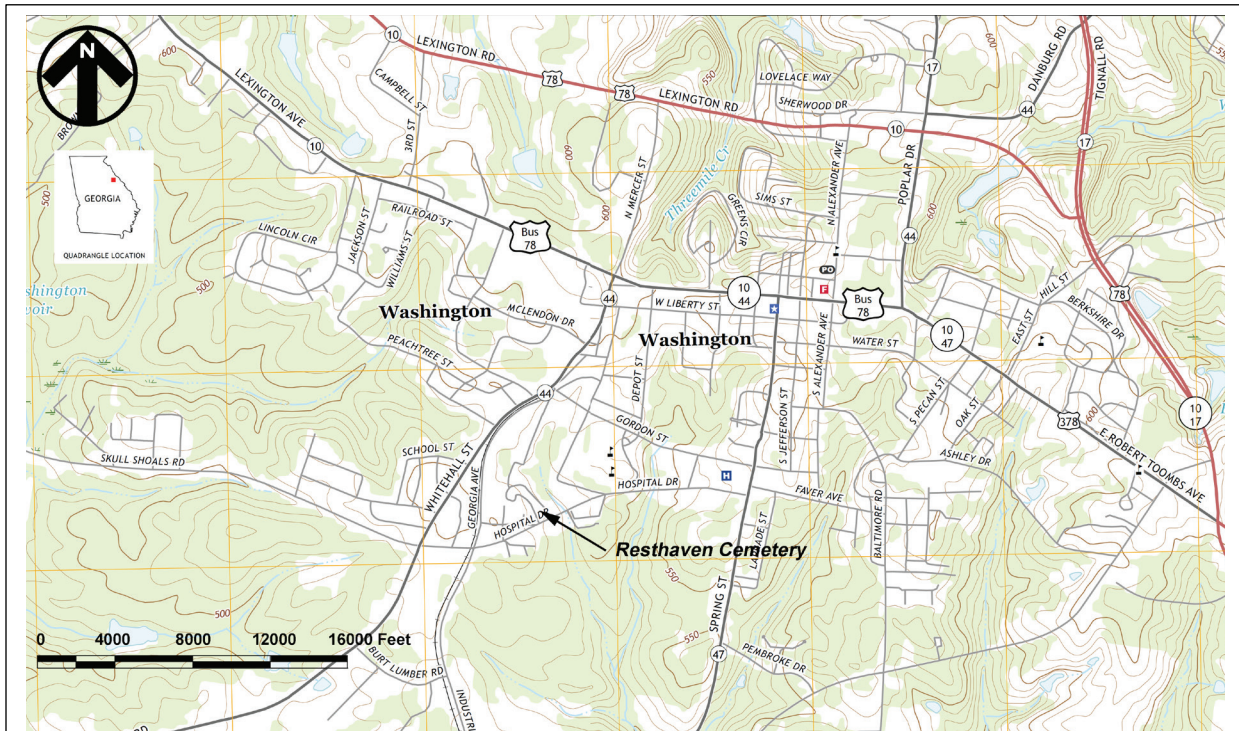


Figure 3. Portion of the Washington East and Washington West USGS topographic maps showing the vicinity of Resthaven Cemetery.

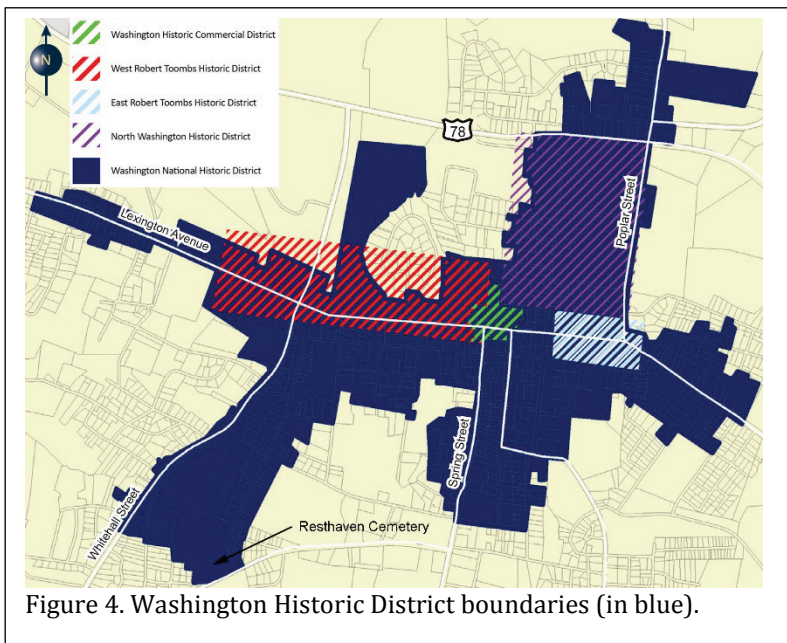


Figure 4. Washington Historic District boundaries (in blue).

some landscape architecture that is characteristic of the picturesque Rural Cemetery movement, popular in the mid to late nineteenth century, such as the abundant use of iron fences, ornate monuments, and family plots oriented to the landscape. The style, however, is tempered by the use of a rigid grid system typical of municipal cemeteries of the period. It is likely that, at one time, there were also ornamental plantings, but this aspect of the historic resource has suffered from decades of abuse.

The cemetery should also be recognized in the area of community planning as it represents the city's effort to provide a public cemetery as an alternative to the crowded church cemeteries (some churches, we are



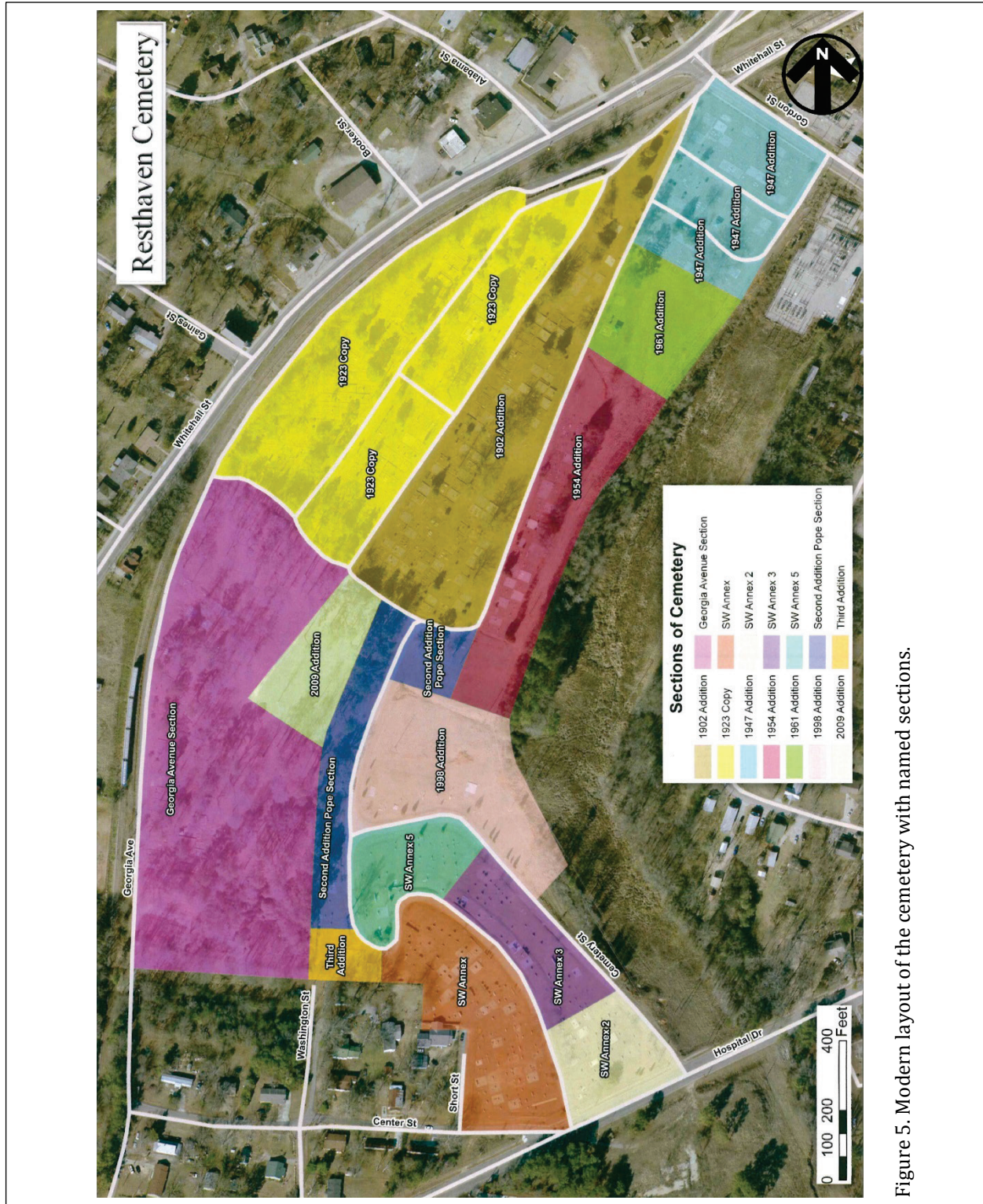


Figure 5. Modern layout of the cemetery with named sections.



told, originally owned plots at Resthaven).

## The Project

Since at least 2015, the City of Washington and the Washington-Wilkes Historical Foundation have been grappling with the needs of Resthaven and how to best go about preservation efforts. In 2016, they reached out to Chicora and we began discussions regarding a preservation assessment. Although an agreement was quickly reached, Chicora's schedule precluded conducting the assessment until November 2017. This survey was conducted on Tuesday and Wednesday, November 7-8 and the report was prepared shortly thereafter at the Chicora offices in Columbia, South Carolina. The work included not only a careful inspection of the overall cemetery condition, but also an initial meeting with representatives of the city and the Historical Foundation.

This document may be viewed as a "comprehensive or master plan" in so far as it is a long-range plan that provides a policy framework to guide preservation planning decisions. We view long-range as ideally five years, believing that after that length of time progress should be evaluated and needs of the cemetery re-assessed. This document is not, however, a business, financial, or fundraising plan, although each of those topics impacts preservation and will be at least briefly examined.

This preservation plan incorporates issues of not only maintenance of the landscape, but also security, pedestrian and vehicular access, vandalism, and maintenance of the cemetery's hardscape. The assessment also includes a review of critical conservation issues associated with monuments, the receiving vault, plot fences, retaining walls, and coping.

The presence of a plan, however, does not guarantee improvement. This document is a "road-map" for preservation issues, but it is incumbent on the City of Washington to not simply implement its recommendations, but to embrace them. This may be difficult; change is difficult and many of the recommendations focus on fundamental

operational changes.

Of even greater concern is that many of the most critical recommendations made in this study will require significant funding. This means there must be political resolve to do the "right thing" and ensure the preservation of this cemetery for future citizens of Wilkes County.

Failure to make substantive changes will have serious effects on the long-term quality of the landscape, the cemetery monuments, and the cemetery's community support.

Resthaven Cemetery is fortunate in that the group requesting this study – a combination of public and private organizations – is active, energized, and seriously interested in the long-term preservation of the property. The Washington-Wilkes Historical Foundation, in particular, forms the constituency that is critical for a property's preservation.

## Why Preserve?

Preservationists may take the question "why preserve" for granted; yet it remains an important issue, especially in the current economic and political climate. It is useful to provide at least some brief discussion of why preservation of Washington's Resthaven Cemetery is a worthwhile – even critical – goal for the city and its citizens.

Cemeteries are different from all other types of historic sites. Most fundamentally, they contain the physical remains of past generations and are considered sacred, consecrated ground. The right to a decent burial has long been recognized in common law. So too, is the duty to continue a cemetery once begun. Thus a municipality, by opening a cemetery, creates a duty through its officials to execute the trust and maintain the cemetery for the benefit of the public.

Cemeteries are also artistic sites, such as a sculpture garden or outdoor museum, which contain a collection of three-dimensional artifacts. The monuments trace changes in both designs and social attitudes toward religious and moral views,

death and eternity. They provide examples of the largely disappeared art of stone carving, illustrating numerous famous artisans. They are permanent collections, but must be considered finite and irreplaceable.

These collections are archives, having the same value and importance to the community as any archives. They are storehouses of genealogical information that often cannot be identified through any other means. They provide information concerning both the individual and collective pasts.

Sometimes it is thought that once a genealogical assemblage of the cemetery is collated and published, archival concerns have been fulfilled. This is incorrect. Few such compilations include detailed photographs and full transcriptions, including verses.

In addition, part of this archive is the archaeological and bioanthropological information the cemetery contains – even if the burials are never excavated. The graves and tombs can provide information on mortuary behavior, such as the coffins and hardware chosen by relatives. The human remains can provide information on diet, disease, and burial practices – information that is available from no other source.

Cemeteries are also scenic landscapes, similar to parks or open spaces, except they are much more. They are far more fragile and susceptible to damage and deterioration. As such they require distinctly different care.

Thus, cemeteries are important social, historic, architectural, and archaeological artifacts. When there is little else physically remaining of a community's earliest history, there will often be a cemetery that provides a unique tie to the community's collective past that would otherwise be lost.

Beyond these ties to the community's history and the ethical responsibility of caregivers, the preservation of our past also has clear economic benefits to a community. These serve to

dispel the argument that while history may be important, there are more pressing needs. History can, in fact, generate the economic stimulus to help address the other needs of a community.

Taking just a few examples from the numerous studies available:

- Historic preservation activities generate more than \$1.4 billion of economic activity in Texas each year.
- Rehabilitation of historic properties in Georgia during a five-year period created 7,550 jobs and \$201 million in earnings.
- Even more significantly, a 2011 study in Georgia found that historic preservation creates more jobs per \$1 million in economic activity than the same amount in other major industries.
- Recent studies in Savannah, Rome, Athens, and Tifton, Georgia found that properties in designated historic districts often appreciated in value more than similar properties in non-designated areas.
- Each dollar of Maryland's historic preservation tax credit leverages \$6.70 of economic activity within that State.
- In one year, direct and indirect expenditures by heritage tourists in Colorado reached \$3.1 billion.
- A New York state study found that prices of houses in historic districts are higher than those of similar houses outside historic districts.
- A detailed Massachusetts study found that heritage tourism travelers spend "considerably more" than other travelers and that most come from out of state, further accentuating the economic contribution of heritage tourism. The study found that heritage tourists

contributed an estimated \$2.5 billion annually over the 1998 through 2000 period. Considering both direct and multiplier effects, Massachusetts received annually from heritage tourism 53,000 jobs; \$1.2 billion in income; \$1.8 billion in gross state product; \$559 million in taxes (including \$301 million in state-local taxes); and annual in-state wealth creation of about \$1.5 billion.

- In Georgia, heritage tourism supports 117,000 jobs and \$203,850,000 in salaries and wages.

Thus, we see a broad range of reasons why we should be concerned about the preservation of Resthaven Cemetery. We argue, in fact, that the significance of cemetery preservation is actually greater than the sum of its parts.

## Preservation or Restoration?

Preservation is *not* restoration. Restoration means, very simply, making something “like new.” Restoration implies dramatic changes of the historic fabric, including the elimination of fabric that does not “fit” the current “restoration plan.” Restoration is inherently destructive of patina and what makes a property historic in the first place. The “restorer” of a property too often knows little of the Secretary of the Interior’s Standards for Preservation and may care even less.

One of the most important early writings was that of nineteenth century art critic and observer John Ruskin. In *The Seven Lamps of Architecture* published in 1849 and in particular, “The Lamp of Memory,” Ruskin introduces us to the issue of trusteeship where he explains,

it is again no question of expediency or feeling whether we shall preserve the buildings of past times or not. *We have no right whatever to touch them.* They are not ours. They belong partly to those who built them, and partly to all the generations of mankind

who are to follow us (Ruskin 1989:245)

Ruskin also crisply stated the difference between restoration and repair, noting that “restoration” means,

the most total destruction which a building can suffer: a destruction out of which no remnants can be gathered: a destruction accompanied with false description of the thing destroyed (Ruskin 1989:241).

In contrast, preservation (or conservation for that matter) can be defined as preventing or delaying loss, depletion, waste, or harm. Preservation seeks to limit natural deterioration.

Preservation will respect the historic fabric, examine the variety of options available, and select those that pose the least potential threat to the property. Preservation (as well as conservation) will ensure complete documentation, whether it is of cleaning, painting, or repair. Preservation treatments will ensure that the work done today does not affect our ability to treat the object tomorrow.

## Preservation Fundamentals

Preservation is not an especially difficult concept to grasp, although the key principles are not always clearly articulated. The fundamental concepts are well presented in the Secretary of the Interior’s Standards for Preservation (see Table 1).

This document reminds us – at least at a general level – of what caregivers need to be thinking about as they begin a cemetery preservation plan. Those responsible for the care of Resthaven Cemetery should be intimately familiar with the eight critical issues it outlines.

For example, all other factors being equal, a cemetery should be used as a cemetery. Until the caregivers are able to do what needs to be done, it is their responsibility to make certain that the site

Table 1.  
Secretary of the Interior's Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

is preserved – it must not be allowed to suffer damage under their watch.

Caregivers must work diligently to understand – and retain – the historic character of the cemetery. In other words, they must look at the cemetery with a new vision and ask themselves, “what gives this cemetery its unique, historical character?” Whatever it is, those undertaking its care and preservation become the guardians responsible for making certain those elements are protected and enhanced (whether they are

particularly appealing to the caregivers or not).

Whatever conservation efforts are necessary must be done to the highest professional standards; these conservation efforts must be physically and visually compatible with the original materials; these conservation efforts must not seek to mislead the public into thinking that repairs are original work; and the conservation efforts must be documented for future generations. If the caregivers aren't conservators, it is their responsibility as the stewards of the property to retain a conservator appropriately trained and subscribing to the Code of Ethics and Standards of Practice of the American Institute for Conservation (AIC).

The Secretary of the Interior reminds those responsible for the resources that each and every cemetery has evolved and represents different styles and forms. Few, if any, cemeteries are “frozen in time.” For example, Resthaven Cemetery, while originating in the late antebellum period, contains examples of a variety of later memorials, including late nineteenth and early twentieth century granite die on base monuments. The landscaping provides transitions from a Victorian Rural Cemetery picturesque landscape to an early twentieth century lawn-park.

It is the responsibility of care-givers to care for all of these modifications and not seek to create a “Disney-land” version of the cemetery, tearing out features that don’t fit into their concept of what the cemetery “ought” to look like.

Likewise, caregivers are reminded that there will be designs, monuments, and other features that characterize the cemetery – and the caregivers are responsible for identifying these items and ensuring their preservation. Caregivers must be circumspect in any modifications, ensuring that they are not destroying what they seek to protect (a problem with virtually all “restoration” efforts).

Before acting, those responsible for preservation are required as good and careful stewards to explore and evaluate the property, determining exactly what level of intervention – what level of conservation – what level of tree pruning – is actually necessary. And where it is necessary to introduce new materials – perhaps a pathway – into the cemetery, they must do their best to make certain these new elements are not only absolutely necessary, but also match the old elements in composition, design, color, and texture.

In other words, if the cemetery has soil pathways, they would be failing as good stewards if they allowed concrete pathways – especially if the only justification was because concrete was less expensive or easier to maintain.

Where conservation treatments are necessary, the Secretary of the Interior tells stewards that they must be the gentlest possible. However phrased – less is more – think smart, not strong – caregivers have an obligation to make certain that no harm comes to the resource while under their care. And again, one of the easiest ways to comply is to make certain that caregivers retain a conservator subscribing to the ethics and standards of the American Institute for Conservation.

Finally, the caregivers must also recognize that the cemetery is not just a collection of

monuments and the associated landscape – the cemetery is also an archaeological resource. They must be constantly thinking about how their efforts – whether to repair a monument, put in a parking lot, or resurface a path – will affect the archaeological resources – archaeological resources that are the remains of people buried at the cemetery by their loved ones.

These are especially critical issues for the Resthaven Cemetery. The cemetery has been fighting gradual – and at times exponential – deterioration since at least the late nineteenth century. City budget cuts have significantly impacted critical maintenance activities relating to the landscape, including mower, pruning, and tree care. There has been no formal or organized action to combat vandalism or develop meaningful rules and regulations to govern activities in the cemetery. Inappropriate cleaning methods have caused damage and deterioration to incredibly important monuments.

Attention to the Secretary of Interior Standards for Preservation is even more critical today since the 2004 listing of the cemetery on the National Register of Historic Places. There should be no option for “business as usual.” The City, historical foundation, and other friends of the cemetery must embrace these Standards and we recommend that a meeting of the city’s cemetery committee be held during which the standards are fully explained to all members.

## A Brief History

Historical research was not called for in the scope of this project, but our review of available documents clearly demonstrates the need for such research.

Although Wilkes County and the town itself date to the American Revolution, the community’s prosperity significantly improved in 1853 when it became open to outside markets with the construction of the Georgia Railroad line from Washington to Barnett, in Warren County to the south.

Four years later, in 1857, Resthaven was given to the city by Nicholas Wylie. Wylie is identified in the 1850 census for Wilkes County as a 59 year old farmer married to Nancy. They owned \$30,000 in real estate and boarding with them were 30 year old M.D. Andrews and his wife, Martha. Andrews was listed as a physician. A decade later, in 1860, Wylie was extremely wealthy, listing \$140,000 in real estate and a personal estate valued at \$215,500. Surviving the Civil War, in 1870 Wylie reported a diminished, but still significant, real estate holding of \$70,000 and a personal estate of \$20,000. His wife had died in 1868 and he died in 1871.

Like others in the area, Wylie's prosperity was based on cotton, but this wealth declined precipitously with the introduction of the boll weevil and the closure of manufacturing plants, beginning in the 1920s. Washington's population steadily declined from its peak of over 24,000 in 1920 to about 9,800 in 2016.

One of the few maps showing the cemetery, dating to 1901, provides no details. The cemetery is too far south of the community to be identified on Sanborn maps, and it fails to appear even on early USGS topographic maps.

We can, however, examine land use from 1951 on, based on aerial imagery. While the quality is not always good, the images do provide some clues regarding development and vegetation.

The earliest image we have found in from 1951 (Figure 6). It shows what are known as the 1902 and 1923 sections filled and well vegetated. The 1947 sections are being used and sparsely vegetated; in fact, it is difficult to determine if grass was yet planted or growing. What would become the 1954 sections were open ground, perhaps in fields.

To the south of the 1923 sections, in the area of African American burials, is dense woods, gradually opening to the south where, we suspect, African American burials were still being conducted. We have seen numerous examples of

African American non-perpetual care, funeral home cemeteries being allowed to lapse into dense vegetation once filled. While, in theory, graves would be maintained by families, the early twentieth century was a period of significant African American out-flight, so it is likely that many families left Wilkes County.

Structures on Washington Street are well defined and the lots are open, suggesting the possibility of small gardens. The southern sections of the cemetery are in cultivation, with at least one area terraced to control erosion. Center Street is present, but Hospital Drive had not yet been constructed. Also absent are the numerous large electrical substations and the high-voltage lines running north to south on the east edge of the cemetery today.

Also clearly absent is vegetative screening separating the cemetery from the railroad tracks and Whitehall Road to the west. While there is abundant vegetation in the 1923 sections, there is surprisingly little in the 1902 section where the earliest graves are found. There is one line of planted trees running northwest-southeast along the road that separates the 1923 sections. Remnants of these planted cedars are still present, representing some of the best evidence for a planned landscape.

Figure 7 shows the same area two decades later in 1971. Clearly, there have been major changes to the outskirts of Washington. Hospital Drive has been constructed, as has the major east-west transmission line and the major substation at the northeast corner of Resthaven. Much of this work was done when issues of visual impact were not considered and all construction was viewed as "progress" by most.

In the cemetery, the 1947 sections were well developed, as well as the 1954 section where topography permitted. All three Pope sections were also well populated. Cemetery Street had been constructed – making it today 40+ years old. The SW Annex had just been opened and only a few grave sites can be identified.



The African American sections were not much different, although several dirt roads can be discerned and additional burials are present. There appear to be houses in the southern most portion of the Georgia Section where African American burials were being conducted. Their relationship to the cemetery is not known.

Cemetery vegetation is not much even after 20 years. The oldest section remains relatively open, while the adjacent 1923 section is more heavily vegetated. There still, however, is no appreciable screening of the cemetery from the railroad or Whitehall Street.

Another two decades pass and we have a 1993 aerial (Figure 8) showing the cemetery development. The property has taken on its essentially modern appearance and some burials have taken place in virtually all of the sections, except for the section opened in 1998. The northern substation on Gordon Street has been constructed.

A notable change is that there no longer seems to be any significant activity in the African American section. That portion which was open 20 years earlier is now entirely wooded. The structures and horseshoe drive at the southern edge of the section are no longer present and that area is also wooded. Clearly some activities were taking place in the African American section that are not fully documented.

Vegetation has not changed radically, although the “screening” between portions of the cemetery and railroad are more pronounced. We suspect that this may be related to declining maintenance. Otherwise there doesn’t seem to be a lot of change and much of the landscape appears to have stabilized.

The last image, Figure 9 shows the cemetery in 2017, again about two decades later. There has been some loss of overhead vegetation in the 1923 cemetery area, which is clearly seen on-the-ground as numerous large stumps. There is little or no indication of new plantings, except for

the limited beautification efforts along Cemetery Street. Unfortunately, most of the cedars lining the road dividing the 1923 section have disappeared. What has grown significantly is the vegetation between the cemetery and the railroad tract. Vegetation in the African American cemetery section has been thinned extensively, except for the northern and southern edges, where it remains dense.

Although representing only the mid to late twentieth century, these aerial images help us better understand the development of the cemetery, as well as its changing vegetative patterns.

There is a clear and compelling need for a more detailed professional history of the cemetery that focuses on purchase records, and in particular city records. Often city council minutes or various committee reports can provide otherwise unavailable details. Historic newspapers can often provide unique details. There are a number for Washington that might be of interest, including:

- *Washington Gazette* (various dates 1866-1904)
- *Washington Chronicle* (Jan. 1889-Dec. 1904)
- *Gazette-Chronicle* (Jan. 1905-Apr. 1911)
- *Washington Reporter* (Mar. 1907-May 1919)
- *News-Reporter* (June 1909-present)
- *Wilkes County Forum* (Jul. 27, 1922-Sep. 3, 1931)

While not on-line, they are available in microfilm. Without a computerized index, however, searches will be painfully time consuming.



Figure 6. 1951 aerial showing the area of Resthaven Cemetery (compare to Figure 5).





Figure 7. 1971 aerial showing the area of Resthaven Cemetery (compare to Figure 5).



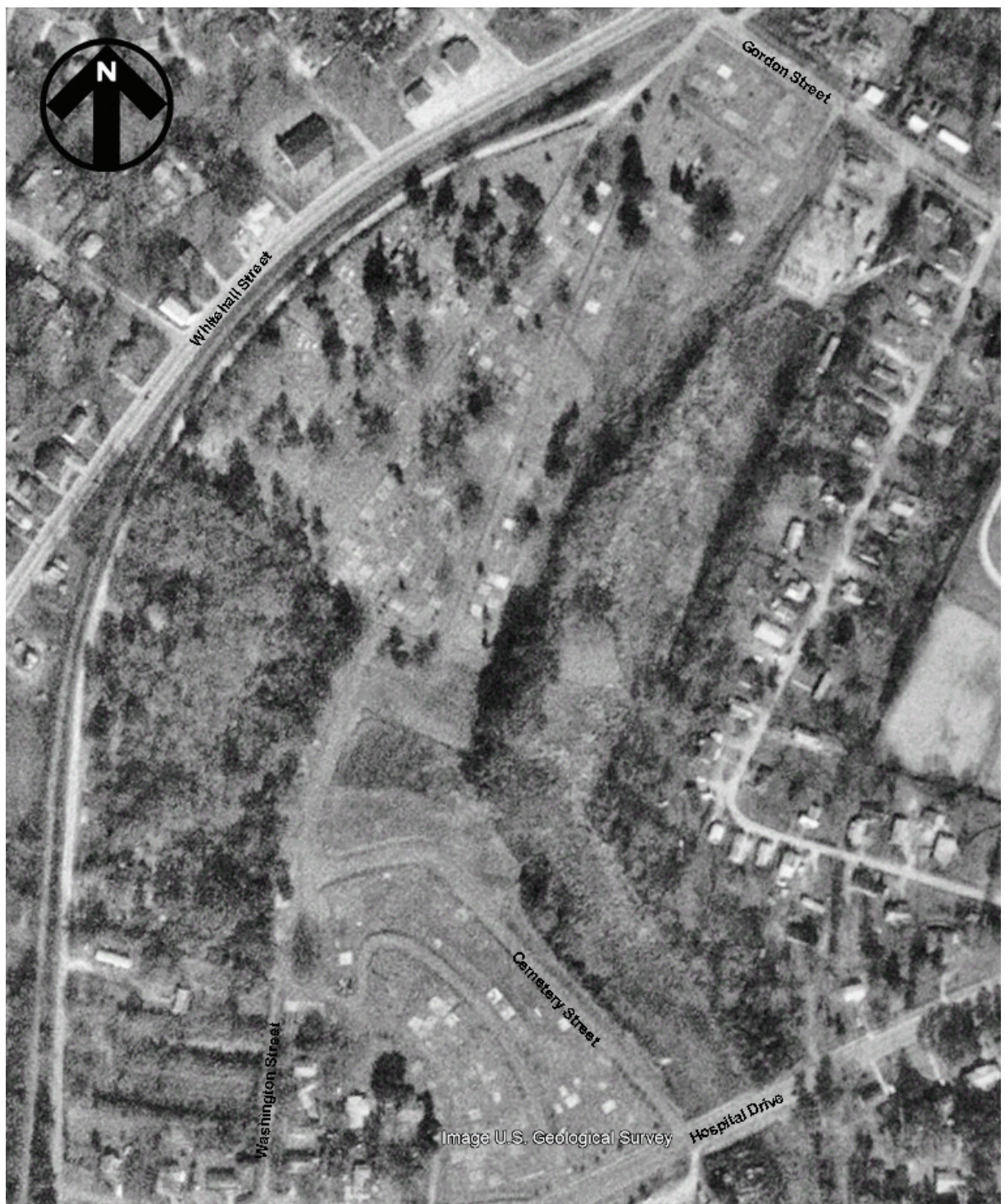


Figure 8. 1993 aerial showing the area of Resthaven Cemetery (compare to Figure 5).





Figure 9. 2017 aerial showing the area of Resthaven Cemetery.

## The Cemetery Location, Setting, and Context

Resthaven Cemetery, once at the southwestern edge of the city, remains fairly isolated even today. It is bounded by Hospital Drive, a two-lane county road (240) to the south. There is a narrow fringe of residential along the road. Beyond are woods and farmland with a strong rural character and no development. It is nevertheless identified as “suburban residential character” (CSRA Regional Commission 2014). Most of the area is zoned for high density residential development or redevelopment (R3 or R3A).

To the west is Georgia Avenue, a two-lane city road. Beyond is a railroad track and Whitehall Street or Georgia 44. There is a small African American neighborhood to the southwest of the cemetery in the area of Center and Washington streets. Along Whitehall Street is additional residential development. Most of this area is in the Rusher Street Target Area of the Southwest Washington Urban Redevelopment Plan. Whitehall becomes more commercial at the northern edge of the cemetery. Only slightly further south, between Whitehall and Union Camp is a log processing plant which promotes extensive logging truck traffic.

To the east is a large utility transmission corridor and a large electrical substation. Beyond is limited residential development and the hospital grounds.

To the north is mixed commercial and residential property and this area is also included in the Southwest Washington Urban Redevelopment Plan.

There are very few areas of the cemetery with adequate screening, as shown in Figures 10-11. It is important to balance screening with security and also recognize that screening is not the equivalent of “privacy,” nor should it be. Screening should strive to moderate views and help to establish and maintain the cemetery

setting. Obviously, the best way to achieve this is to carefully review and approve adjacent developments. That, unfortunately, was not done, so it becomes necessary to break up or soften the existing views.

Traffic may be an issue, but there are only two traffic counts available in the cemetery vicinity (CSRA Community Development Center 2008). One is in the center of Washington, at Robert Toombs Avenue and Spring Street on US 78 Business and the other is on Whitehall Street at the edge of the city. Both show traffic declines. Overall, however, the study concludes that traffic on “Wilkes County’s street network increased over 80 percent during the six year period measured” (CSRA Community Development Center 2008:100).

Both Whitehall Street and Hospitality Drive have sidewalks for pedestrian use. There is a rudimentary bus system, Wilkes Transit. In addition, recent improvements to Whitehall have created adequate shoulder room for a bike lane. Nevertheless, we believe (based solely on anecdotal information) that most visitation to the cemetery is by automobile, whether it is heritage tourism or family members.

The cemetery has both a northern and southern entrance. The former is off Gordon Street and it represents the original entrance to the property. The second entrance is off Hospital Drive and was created with the opening of the various Annex plots.

As previously discussed, the rural character of the cemetery has been degraded by the visual intrusion of electrical facilities and highways, but with judicious screening, some of these intrusions can be minimized. Since most have been generated by outside forces, the city may also be able to obtain screening assistance from utility companies and the Department of Transportation.

The vicinity is characterized by urban vegetation. The redevelopment plan observes that “some parcels are overgrown by vegetation – often to a degree where buildings are difficult to discern





Figure 10. Screening issues at Resthaven Cemetery. Above, the electrical substation north of the cemetery, affecting the 1947 additions. Below, the electrical substation east of the cemetery, affecting the 1947 additions .





Figure 11. Screening issues at Resthaven Cemetery. Above, lack of screening into the adjacent neighborhood, affecting the SW Annex and the Third Addition. Below, lack of screening for about half of the 1923 Section.





Figure 12. Minimal screening along the northern portion of the 1923 section.

from the public street” (CSRA Regional Development Center 2007:19). In the cemetery, there are a variety of oaks, magnolias, cedars, crepe myrtles, and pines. Recently a number of dogwoods have been planted (although they have fared

poorly). The only clearly defined early plantings are cedars, which are a common cemetery tree.

The City of Washington is located within U.S. Census Tract 103.02 and within that, Block Group 5. The value in examining this area is that it surrounds the cemetery and can affect it in terms of community support.

Census Tract 103.02, which encompasses the southern half of Wilkes County, has a population of 4,523, representing about 1,800 households. It is nearly equally divided between males and females and has a median age of about 42 years. About 56% of the tract is African American. The per capita income is only \$17,860 and the median household income is \$29,603. Fully 29% of the individuals living in this area are below the poverty line, only slightly higher than the number in Washington and about the same for the remainder of the county.



Figure 13. Topography at the eastern edge of the cemetery, view to the southwest.

There are nearly 2,300 housing units, mostly single family dwellings and 81% are occupied, nearly two-thirds (64%) by owners. These owner-occupied dwellings have a median value of just under \$92,000, which is slightly

lower than for both the city and the county.

While 78% of the residents have graduated high school, just under 20% have a bachelor's degree or higher.

Turning to Block Group 5 in the immediate cemetery vicinity, there are 781 people and 372 households. The population is older – nearly 58 years on average, there are more whites than African Americans (54% compared to 46%) and the per capita income is noticeably higher - \$21,432 (the median household income is also higher at \$31,765).

Just below three-quarters of the housing units are occupied, although there is little difference in the proportion that are owner-occupied between the Block Group and the Tract. The median value, however, is nearly \$3,000 lower.

Educational attainment is higher, with 86.8% having at least a high school diploma and over 26% having at least a bachelor's degree.

Thus, the neighborhoods surrounding the cemetery are ethnically diverse, older, stable, and educated. All of these factors are likely to support preservation efforts. Nevertheless, the poverty rate is high and incomes are significantly lower than the county average. This presents a challenge in terms of implementing improvements that will be of critical importance for long-term preservation.

Looking at crimes potentially affecting the cemetery in the first quarter of 2016 (including vandalism, prostitution, drunkenness, disorderly conduct, and vagrancy) only three arrests were reported. Nevertheless, Washington does have a fairly high crime index, reported to be 305.8, higher than nearly 80% of American cities in 2013. Sixty percent of the crimes are classified as theft. This is in spite of Wilkes County having 3.53 officers per 1,000 residents in 2013 (compared to the Georgia average of 2.73 officers).

The most recent count of the homeless population for Wilkes County is 2015 when a total

of only eight individuals were identified. Most are African American and about 15% are mentally ill.

While Resthaven is a beautiful cemetery, it faces a variety of uniquely twentieth century issues, including homelessness, higher crime rates, and high poverty rates.

## Factors Affecting the Landscape Character

Washington is situated in the Georgia Piedmont, where topography is gently rolling to steep and elevations range from 500 to 1,500 feet above mean sea level (AMSL). The city is situated on a ridgeline (Figure 3), with elevations about 600 feet AMSL. The topography surrounding the cemetery is more variable, being influenced by the dendritic drainage pattern typical of the Piedmont. Elevations slope to the east, toward tributaries of Rocky Creek, and to the northwest and southwest, toward tributaries of Little Beaverdam Creek.

In the cemetery, elevations average about 590 feet. Topography is level over the western and northeastern portions of the property, but begins to slope to the east and southeast in the eastern sections along the transmission line corridor. This rolling topography is especially noticeable in the 1954 Addition and edge of the 1902 Annex.

Most of the rocks of the Piedmont are gneiss and schist, with some marble and quartzite. Wilkes County is part of the physiographic province known as the Washington Slope – a gently rolling area that is marked by broad, shallow valleys. Long, gentle slopes separate broad, rounded stream divides. Relief is generally 50 to 100 feet.

The soils in the cemetery are identified as three series: Georgeville clay loam with 6 to 10% slopes, the Georgeville-Urban land complex with 2 to 10% slopes, and the Lloyd-Urban land complex, also with 2 to 10% slopes (Figure 14).

The Georgeville clay loams are found on Piedmont hills with slopes and gullies. The soils are



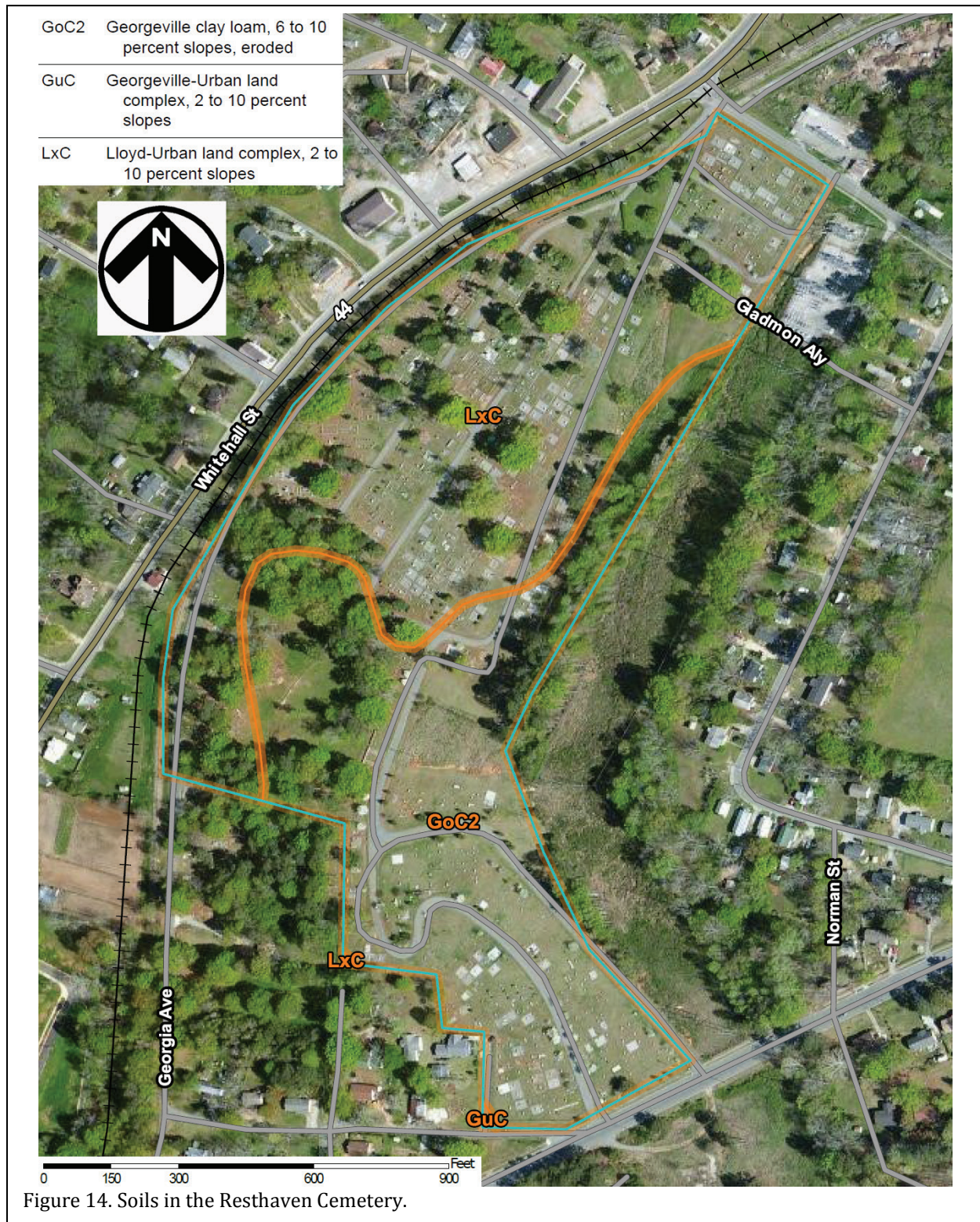


Figure 14. Soils in the Resthaven Cemetery.



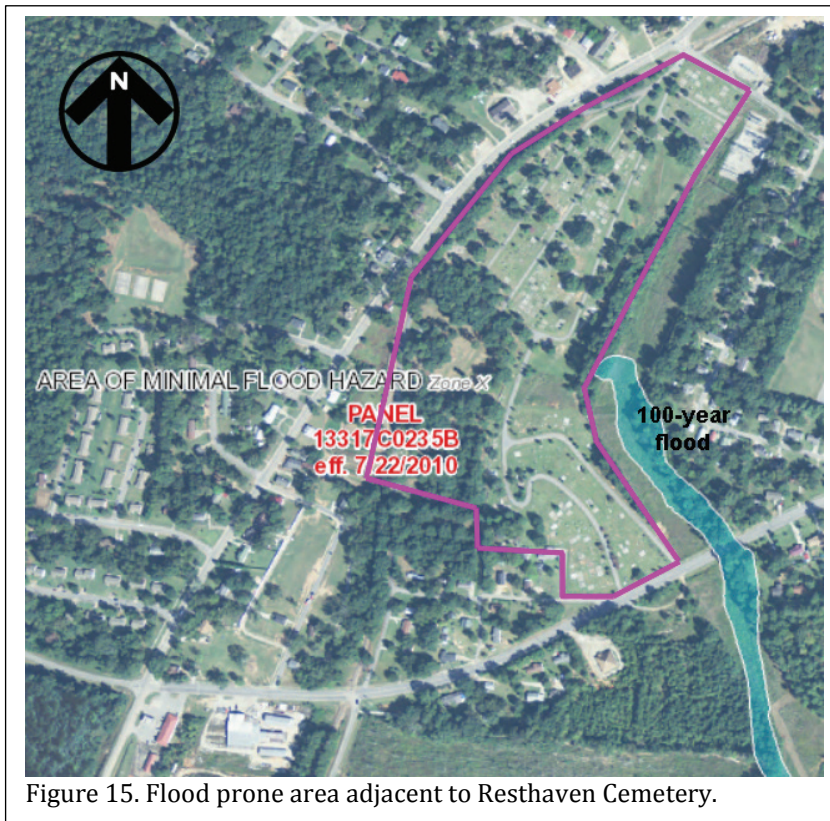


Figure 15. Flood prone area adjacent to Resthaven Cemetery.

weathered from Carolina slates and other fine grained rocks. The surface soils have a surface layer of reddish brown clay to depths of about 0.2 feet over a subsoil of red clay or red clay loam. The soils are well drained, but have rapid runoff, resulting in significant erosion. This is clearly seen in many of the sections in the southern portion of the cemetery. This soil comprises about 46% of the cemetery (George 2006:72-73).

The associated Georgeville-Urban land complex is similar, being situated on summits and shoulders with smooth topography. These soils are found in only about 0.1% of the cemetery in the extreme southwest edge.

The Lloyd-Urban land complex is found in the majority of the cemetery, accounting for about

54% of the property. They are formed from from intermediate and mafic, igneous and high-grade metamorphic rocks. These soils are found in more level areas with shallow slopes and reduced erosion. The upper 0.5 foot is typically a dark reddish-brown loam. Below is sandy clay gradually becoming a clay. They are well drained with moderate to rapid runoff, but there is little erosion (George 2006:77-78).

As Figure 15 reveals, none of the cemetery is currently mapped with the 100-year flood zone; it is likely, however, that a more substantial portion of the property would be inundated by an increasingly common 500-year flood, especially along the eastern edge.

A 100-year flood would also eliminate cemetery access using Hospital Drive and Gordon Street. Recovery efforts would need to be routed on

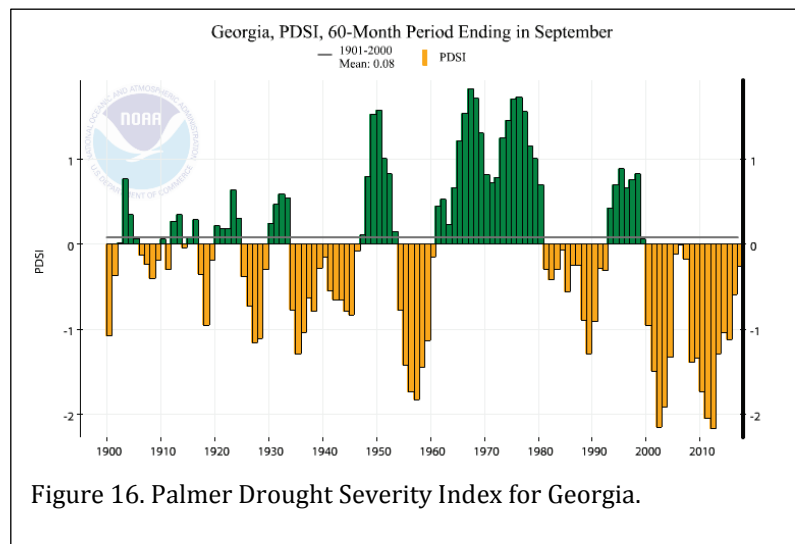


Figure 16. Palmer Drought Severity Index for Georgia.

Whitehall Street.

Washington is characterized by a

minimum temperatures are expected to be between 10 and 15°F. Since this “new” planting zone map was released the zones have shifted even further northward, potentially placing the higher elevations of Resthaven Cemetery in Zone 8b.

This is an area where hot climate grasses, such as centipede, bermuda, and zoysia are typically successful.

Another significant weather phenomenon is tornadoes. Wilkes County has seen five between 1954 and 2009, the most significant occurring February 18, 2009 in the southern portion of the county. Additional tornadoes have occurred in surrounding counties.

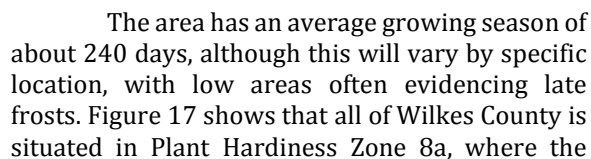
A factor affecting not only the landscape but also stone preservation is the level of pollutants. Based on monitoring in the region, the annual mean of NO<sub>2</sub> is 0.053 ppm and the annual mean of SO<sub>2</sub> is 0.011 ppm. These levels result in significant levels of acid rain with pH levels reaching about 4.6. Nevertheless, there are no major sources of EPA regulated air pollution in the immediate area.

This review reveals that the cemetery faces a variety of natural and man-made environmental factors, all of which have the potential to impact monuments, the cemetery hardscape (such as roads) and the cemetery vegetation. Long-term preservation involves balancing all of these concerns.

The only way for cemetery caregivers to deal with all of these potential events is to develop a detailed cemetery disaster plan. Just as museums, libraries, archives, and businesses must have plans to deal with floods, loss of electrical power, hurricanes, and weather events, cemeteries

too must be ready to respond when there is a significant event – either weather-related or caused by humans.

Chicora Foundation has developed a



detailed manual to assist cemeteries in disaster planning, but it is critical that Resthaven take the threat seriously and conduct the planning in order to respond in an effective and timely manner.

## Recommendations

- A joint meeting of the Cemetery Committee of the Washington City Council and the Washington-Wilkes Historical Foundation should be devoted to a careful review of the Secretary of Interior Standards. The caregivers should focus on a fuller understanding of how daily operations affect the long-term preservation of the cemetery, making necessary adjustments to current policies and procedures.
- Historic research should focus on the development of the cemetery with an end result suitable for various public education needs. Particular research topics should include council and other city records, as well as newspaper accounts. Both are excellent volunteer opportunities.
- The cemetery should prepare a disaster plan to cover events such as flooding, tornadoes, and other events.

# Administrative Issues

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In this section we will examine a limited range of administrative issues that affect preservation efforts, including the laws protecting the cemetery and the financial condition of the caregivers. It is important to realize that we are neither attorneys nor financial planners and the observations made here are intended to promote discussion and further exploration.

## Ownership of the Cemetery

We doubt that this is seen as a significant issue to many in the community, yet there remains some ambiguity. For example, we understand that at one time there was both a Baptist and Methodist cemetery at Resthaven, although it is unclear whether this means independent parcels, plots purchased by the two churches, or some other relationship. Likewise, we are told that the Georgia Avenue section – the African American section – was at one time owned by an African American funeral home, but the city has taken responsibility for the section.

Thus, it would be very helpful to know more about the legal history of the property. Specifically, does the city hold fee-simple title for the entire 41.4 acres?

Of course, such research may reveal that there are issues with the title. If that is the case, it would be important to clear the title to ensure that the city has complete authority over the property.

## Laws Protecting the Cemetery

Laws specific to the cemetery are found in Chapter 20 of the Municipal Code and is the result of an October 2014 ordinance that repealed the

existing chapter, created in 2002, and replaced it. It consists of four sections, dealing with general issues, grave openings, and permits.

Section 20-1 sets the cost at \$200 for a two-grave lot, prohibits the sale of single lots, and specifies that all lots are “perpetual care,” although that term is not defined. The section prohibits the sale of lots by owners, except to the city for the price originally paid.

It prohibits the erecting or planting of “trees, shrubs, flagpoles, fences, [or] any other object that may inhibit maintenance” without written approval by the city. This is an excellent provision, although it does not seem to be universally enforced.

Section 20-1 also specifies that grave plants or flowers “may remain until they become disarranged or cease to be of good color or condition.” The goal of this provision is absolutely necessary, but it is somewhat ambiguous (which is difficult to avoid) and is not being enforced.

Vault tops must be buried below grade, funeral homes are responsible for providing and maintaining temporary markers, and all graves must be marked. This last provision is especially important, although we are unsure if it is being enforced.

Finally, the 2009 section is designated as a flat cemetery, generally known as a lawn memorial cemetery, and no three-dimensional markers are allowed.

Section 20-2 establishes the requirements for grave opening permits and establishes their cost at \$25.

Section 20-3 requires that the city, funeral home, and family member meet prior to issuing the permit to “establish the identification of the burial plot.” The city will then mark the plot. The funeral director becomes responsible for the condition of the plot until after the burial has been completed.

Section 20-4 covers the mechanism of plot opening and closing. The funeral home assumes responsibility for any damages, although it is the grave digger who must be insured and bonded. Mechanical excavation is allowed in all sections except in the Resthaven 1902 and 1923 sections. There mechanical excavation “must be individually and specifically approved by the city.”

These provisions aren’t necessarily bad, it is just that they cover too few of the critical issues involved in long-term preservation and maintenance of the cemetery. Additional regulations will be suggested in a following section dealing with signage.

## Other Laws

Section 10-32 establishes a leash law, making it “unlawful for any person owning or having possession or control or care of a dog to allow the dog to stray or run at large upon the streets, playgrounds, or other public places. . . .” A further subsection requires that animals “be on a leash and under control of a person capable of controlling the dog. . . .” Clearly this establishes a leash law that applies to Resthaven Cemetery.

We observed at least one off-leash dog during this study. It is essential that all animals and owners abide by this law at Resthaven.

Chapter 42 covers a broad range of historic preservation issues. It defined a “historic property,” as a “structure, site, or work of art.” By this

definition, Resthaven Cemetery, listed in the National Register and within the Downtown Historic District, is included in these provisions.

While perhaps not conventional, we believe that 42-39, which prohibits demolition by neglect, applies to Resthaven. The ordinance explains that “demolition by neglect can result in the loss of valuable portions of the city’s heritage as well as being a hazard to public safety and a public nuisance.” The Historic Preservation Commission is charged with monitoring the condition of sites in the city’s historic districts, and we believe this may apply to Resthaven.

This may assist those favoring the preservation of Resthaven, including those plots for which no owner can be identified, in pressuring the city to assume responsibility for the well-being of the plots and monuments.

Chapter 46 covers a broad range of criminal offenses pertinent to maintaining good order in a cemetery. For example, 46-1 covers disorderly conduct, including loud noise; damaging, disturbing or befouling public property; Consuming alcohol on public property; 46-3 covers public indecency, including urination and defecation; 46-5 includes trespass; 46-8 includes “idling, loitering, or loafing”; Section 46-10 covers littering.

Section 86-60 lists duties of the Tree

Table 2.  
Official tree species, City of Washington

Small Trees	Medium Trees	Large Trees
Apricot	Green Ash	Kentucky Coffeetree
Dogwood	Thornless Honey Locust	Silver Maple
Golden Rain Tree	Linden or Basswood	Sugar Maple
Hawthorne	Red Mulberry (fruitless, male)	Bur Oak
Bradford Pear	English Oak	Sycamore
Redbud	Red Oak	London Planetree Sycamore
Soapberry	Japanese Pagoda Tree	Cottonwood (cottonless, male)
Japanese Lilac	Pecan	
Flowering Beech	River Birch	
Plum	Osage Orange (thornless, male)	
	Persimmon	
	White Poplar	



Board as including the development, updating, and administration of “a written plan for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs . . . in . . . public areas.” It seems likely that this includes the cemetery, although there seems to have been little action to ensure this task is accomplished.

The Chapter also lists “official street tree specimens.” Although the cemetery trees are not “street trees,” this list (Table 2) provides some initial guidance to caregivers at Resthaven. Be aware, however, that there are different criteria for street trees and cemetery trees and the two are not necessarily the same.

There is currently no provision prohibiting roller skates, roller blades, skateboards or bicycles in the cemetery or on cemetery roads.

## Cemetery PR

There is no specific “friends” group for the cemetery, but the function has been adopted by the Washington-Wilkes Historical Foundation. The primary fundraising activity is the play, *Resthaven Revised*, which has been presented for the past seven years. Tickets are \$10, which “support the repair, stabilization, and restoration of gravesites” (“*Resthaven Revisited*” will live again as new version is set for October 21,” *News-Reporter*, October 12, 2017). The production has been supported by the Foundation, the Kettle Creek Pilot Club, and the Washington Little Theater.

This is an excellent mechanism to encourage support and visitation. It is essential that all cemeteries explore opportunities to create and reinforce relevance.

The city and Foundation should examine the very effective public outreach program of Atlanta’s Oakland Cemetery (<http://www.oaklandcemetery.com/>). The Historic Oakland Foundation has an excellent website that promotes a broad range of cemetery activities, including multiple tours, other events, and offers opportunities for on-line donations. A review of this site should provide multiple ideas for activities that could be held at

Resthaven throughout the year, including special topic tours (such as Oakland’s Malts and Vaults, where brewing and history combine) or the annual Christmas tour.

Another cemetery worthy of imitation is Spring Grove Cemetery in Cincinnati, Ohio (<http://www.springgrove.org/>). It was created in 1845, is a non-profit, and is also a landscaped rural cemetery. It, however, incorporates 733 acres, of which 450 acres are developed. The cemetery focuses on the business of providing cemetery services, including pre-need, but it has an exceptional community outreach program. The entire cemetery is an arboretum. Its website has a calendar of community events on the grounds, including tram tours, walking tours, twilight tours, monuments by moonlight tours, horticultural tours and talks, fall foliage tours, summer family nights, 5K runs and walks, open air concerts, grief to peace programs, remembrance walks, champion tree walking tours, plant identification tours, an Easter sunrise service, birding tours – the list is almost endless.

We recognize that Resthaven is smaller, has (at least initially) a smaller audience, and has more limited resources, but the key should be to encourage as much public visitation as possible.

While monthly programs would be ideal, this may strain the resources of the Foundation and city. We initially encourage at least quarterly activities to build up excitement and awareness.

It is also important that such activities incorporate both the white and black sections of the cemetery, seamlessly integrating the two and providing equal opportunities for stories and events. It may be appropriate to also include Old School Cemetery, also be carried for by the city (<https://georgiagenealogy.org/wilkes-county/old-school-cemetery-washington-georgia.htm>).

Resthaven lacks a website and this should be remedied as soon as practical. A website can announce tours and events, spotlight different activities, encourage on-line giving, focus on

unique characters, offer teaching curricula and ideas on how to integrate the cemetery into classroom activities, recount the cemetery's history, and include photographs of different monuments. Such a website should list the rules of the cemetery and should provide a list of burials, tied to photographs of monuments.

## Cemetery Competition

An examination of obituaries in *The News-Reporter* for the last quarter found that most burials are taking place at church cemeteries, followed by the City West Cemetery. Resthaven is found in third place (Figure 18). This likely explains why there are only about 40 per year at Resthaven (about one every two weeks).

This is a very low rate of use and it presents a variety of questions, not the least of which is need in the Washington area (there are a variety of commercial cemeteries in nearby counties, including Savannah Valley Memorial Gardens in nearby Thompson).

It also raises the question of why Resthaven is chosen over other options. One reason may be what cemetarians recognized as the use of "heritage" facilities in some market areas. The customer base of such cemeteries derives from the family ties of those in the community whose ancestors or other significant relations are interred there (Smith 1996:167).

Heritage facilities compete with other cemeteries in their market area on the basis of the prices they charge, as well as on the basis of nonprice factors that distinguish them from the competition. In other words, the product of the

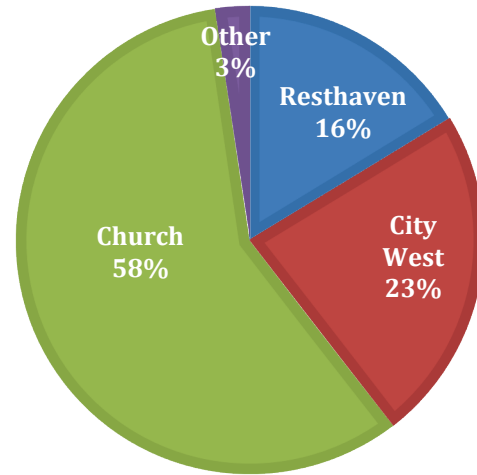


Figure 18. Cemeteries used based on obituaries from July through October 2017.

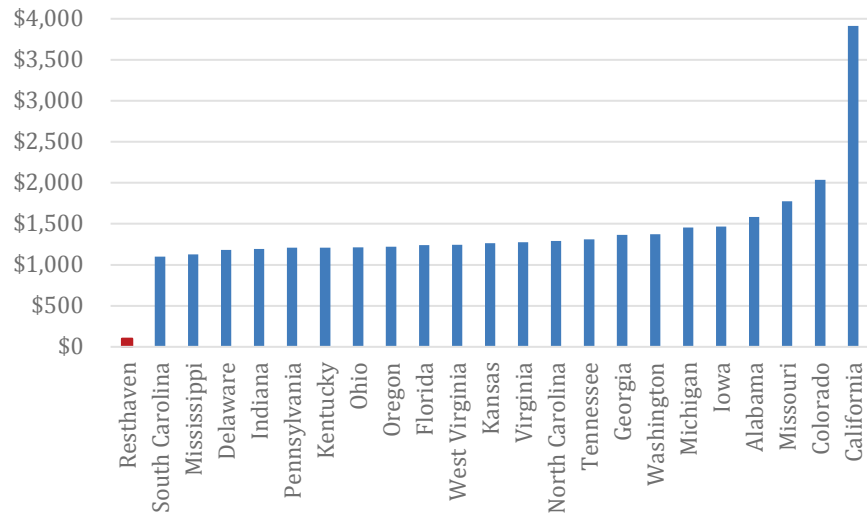


Figure 19. Average plot costs for 22 states, including Georgia, and Resthaven.

cemetery is not simply the burial right it sells initially based on factors such as location; the product includes nonprice items such as continuing maintenance and security to ensure perpetual care.



With this in mind, it becomes reasonable to examine the easiest choice to quantify, price. In general, the average cost of a burial plot in the United States averages somewhere between \$1,000 and \$2,500. Figure 19 illustrates a few state averages, including the Georgia average of \$1,367.

In spite of this, the city is offering a plot in Resthaven for only \$100. We question the assertion that the lots at Resthaven are priced competitively. In addition, the city is guaranteeing "perpetual care" (see below). Given the level of maintenance observed and reported in this assessment, it is difficult to identify nonprice items that would sway a decision, such as maintenance quality, convenience of services, ease of access, heritage, historic significant, etc. It seems likely that the choice to be buried in Resthaven may be heavily influenced by a single factor - the price.

As maintenance improves at Resthaven (which we hope it does), it is also essential for the city to revisit the cost of lots. At present, they are being, essentially, given away free. Lot costs should increase to at least \$500, or \$1,000 for two. It might be better to lose sales, then to obtain additional lots for which care cannot be reasonably provided.

## A Look at Perpetual Care

Georgia law is rather clear regarding the meaning of "perpetual care":

"Perpetual care" means the care and maintenance and the reasonable administration of the cemetery grounds and buildings at the present time and in the future (Georgia Code, 10-14-3-26).

The law goes on to define "care and maintenance" in fairly detailed terms as:

the perpetual process of keeping a cemetery and its lots, graves, grounds, landscaping, roads, paths, parking lots, fences, mausoleums, columbaria, vaults,

crypts, utilities, and other improvements, structures, and embellishments in a well cared for and dignified condition, so that the cemetery does not become a nuisance or place of reproach and desolation in the community. As specified in the rules of the Secretary of State, care and maintenance may include, but is not limited to, any or all of the following activities: mowing the grass at reasonable intervals; raking and cleaning the grave spaces and adjacent areas; pruning of shrubs and trees; suppression of weeds and exotic flora; and maintenance, upkeep, and repair of drains, water lines, roads, buildings, and other improvements. Care and maintenance may include, but is not limited to, reasonable overhead expenses necessary for such purposes, including maintenance of machinery, tools, and equipment used for such purposes. Care and maintenance may also include repair or restoration of improvements necessary or desirable as a result of wear, deterioration, accident, damage, or destruction. Care and maintenance does not include expenses for the construction and development of new grave spaces or interment structures to be sold to the public (Georgia Code, 10-14-3-6).

But, that is not all,

"care and maintenance", in addition to those activities described in O.C.G.A. Sec. 10-14-3(6), which are incorporated herein, shall be defined as maintaining the cemetery in a

reasonable condition, which shall include leveling of the grounds where interments have been made, sodding or planting of grass over interments when graves are closed, reasonable care of grass and other ground cover, subject to climatic and soil conditions, removal of all debris, regular mowing and edging, repair of potholes in pavement, resulting in a well kept appearance at all times. It shall be further defined as maintaining buildings, structures and other improvements located on cemetery property in accordance with all applicable laws and codes. It shall be further defined as maintaining the cemetery property free of inoperative vehicles and machinery, unless stored in a closed structure. It shall further be defined as appropriately marking each entrance to the cemetery property from any public road, with at least one such entrance having a sign indicating the name of the cemetery, and the location of the office for such cemetery if not located on that property (Rules and Regulations, State of Georgia, 590-3-1-.01)

These laws and regulations clearly establish the standard that must be applied to Resthaven Cemetery in all of its maintenance activities. Simply put, it includes:

- Mowing,
- Raking,
- Pruning,
- Weeding,
- Upkeep of drains,
- Upkeep of roads,
- Caring for monuments,
- Maintaining buildings and other

improvements (such as water bibbs),

- Infilling and sodding or seeding graves, and
- Signage regarding the cemetery office.

There is no exclusion for monuments with the claim that they are owned by families. Nor is there any exclusion of municipal entities operating “perpetual care” cemeteries. It is likely that the careful reading of these laws and regulations will give the city and its cemetery board pause since they set a very high standard.

Smith observes that what a cemetery – including Resthaven – sells is not simply real estate, but rather the security of perpetual care (Smith 1996:166). The attractiveness of a cemetery to both at-need and pre-need purchasers “is the adequacy of their perpetual care funds” (Smith 1996:224).

In general, between 5% to 15% of the plot price is placed into some sort of escrow fund to generate interest intended for perpetual care.

In spite of this general, and essential, practice, Resthaven has set aside only very limited funds. For a relatively short period of time the city attempted to enlist lot owners in a perpetual care fund, asking that they pay additional monies for this service. As a result, some lots at Resthaven proudly bear a “Perpetual Care” sign.

At the present time (using the most recent available data from 2015), there is only \$171,097 in the city’s Perpetual Care Fund, which generates about \$500 of interest annually. Based on the 2015 budget (which we are told is not really accurate or complete), this represents only 2.5% of the maintenance budget for that year.

This practice was abandoned some years ago and throughout the cemetery’s existence, the cost of a lot has gone directly into the city’s general fund, with nothing set aside for “perpetual care.”

The cemetery specific revenue streams are \$500 a year in interest and whatever sum is

generated by the sale of cemetery lots, which is unlikely to be more than about \$4,000 to \$5,000 a year.

Assuming only the use of these cemetery-specific revenue streams, the city is generating only about \$5,500 a year for the operation and maintenance of 41.4 acres – the equivalent of \$133/acre/year.

Two conclusions are clear. The first is that the cemetery is significantly underfunded. The second is that the city is using other tax funds to subsidize the low cost cemetery lots. Taken together, these create an unsustainable funding base. And the third, with current rising maintenance costs, the city is quickly reaching a crisis point in cemetery care. This crisis will only get worse as the cemetery begins to run out of lots for sale and the most significant revenue stream evaporates. Even before lots run out, sales are likely to suffer, as visitors see conditions declining and refuse to purchase the few lots available. This will further compound problems and at some point the cemetery will become an eyesore.

John F. Llewellyn (1998) provides a mechanism to test the adequacy of endowment or perpetual care funds. He notes that this process of testing determines “how well the cemetery is doing in fulfilling its ultimate responsibility to the families who have entrusted their loved ones to it and to the community” (Llewellyn 1998:151). Simply put, having a fund that is sufficiently large to provide the income necessary for the care of the cemetery far into the future is a fundamental responsibility.

## Recommendations

- The city should investigate ownership to resolve any questions regarding its control of different sections.
- The existing laws should be reviewed and significantly expanded to ensure the preservation of the cemetery. Suggested additions are provided in a following

section.

- The city and Foundation should develop a Resthaven website. It should be maximized as a sales tool, including information on plot availability, locations, costs, etc. The website should include a listing and photographs of plots and monuments. The website should provide a meaningful history of the cemetery. The website should incorporate solicitation of funding.
- The city should partner with other organizations to develop at least quarterly programs in the cemetery.
- The city and Foundation should begin contacting plot owners in an effort to enlist them in funding lot-specific improvements and repairs.
- The city should increase the cost of a double plot to \$1,000. But, this must be associated with significant improvements in maintenance as outlined in this assessment.

## ADMINISTRATIVE ISSUES

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# Roads and Pedestrian Issues

## Vehicular Access and Circulation

As previously discussed, there are four entrances to Resthaven. The northern entrance, off Gordon Street, was the earliest and incorporated two granite columns. There is a second northern entrance, also off Gordon, as a result of the 1947

additions. There are two southern entrances, off Hospital Drive, both constructed as a result of the cemetery expansion (Figure 20).

The original entrance is somewhat confusing, with the convergence of four roads and a railroad, all coming from different angles (Figure 21). Vehicles on Whitehall Road, a busy Georgia highway, have no notice of the cemetery turn.

Gordon Street has less traffic and the cemetery markers provide some warning when coming from the east. There are no turn lanes on either Whitehall or Gordon. An additional hazard is the train crossing at Gordon Street, which can cause all of the roads in the immediate area to be blocked, including those turning south off Whitehall onto Gordon. The train crossing is protected only by a common crossbuck on the two sides of Gordon Street. There is no railroad warning when traveling on Whitehall and intending to make a turn onto Gordon.

The situation is made more complex by the access road bifurcating twice upon entrance into the cemetery and there being no road names or traffic signs (except for the stop sign at Georgia Avenue and the cemetery road). The signage announcing the cemetery is granite and tends to blur into the backdrop of granite markers.

At the south, the situation is more straightforward. There are again two entrance into the cemetery off Hospital Drive. The more eastern entrance involves only the road into the cemetery, Cemetery Street. The second road, to the west, is about 80 feet north of the entrance into Center Street. As in the case of the northern entrance, the signs, much smaller, are again granite and tend to blur into



Figure 20. Cemetery entrances. At the top is the entrance off Gordon Street, Georgia Avenue to the right. At the bottom is one of the two entrances off Hospital Drive into the newer sections.





Figure 21. North cemetery entrance showing convergence of four roads and a railroad.

the overall appearance of the cemetery

Whitehall Street is curb and gutter; the remaining roads are all rural with narrow, grassed shoulders.

that local roads, whether urban or rural, have 9 to 12 feet lane widths. While these do not necessarily apply to cemeteries, they do provide a point of comparison.



Figure 22. South cemetery entrances.

Once in the cemetery there are no road signs (except for the previously mentioned stop sign at Georgia Avenue). We assume that they were never felt necessary.

The cemetery roads were certainly designed for a different era. A very few of these roads, close to the entrances, are 18-feet in width (9-foot travel lanes), but further into the cemetery all of the road narrow to 12 feet (ditch to ditch).

The Federal Highway Administration Office of Safety specifies

Consequently, the entrance roads represent a minimum 2-lane roadway width. However, once in the cemetery, the lanes effectively become only one way, causing traffic attempting to pass to move onto what little grassed ditch line or shoulder there is.

Road widths also make movement of maintenance vehicles difficult and require speeds of no greater than 5 to 10 miles per hour (mph). Regardless, the cemetery roads lack traffic signage advising

visitors about speed limits or where roads will take them.

Further complicating visitation, as well as other cemetery activities and community events, there is no dedicated parking within the cemetery. Areas on the side of the road are very limited and often involve navigating plots and ditches. For the annual play, Resthaven Revisited, this has been resolved by providing shuttle buses.

The circulation pattern is typical for cemeteries that combine rural landscape, lawn-park, and urban municipal cemetery themes. In some areas they are winding; in others the roads are closer to a grid pattern. Sharp turns in several locations can limit sight lines.

There are few options for improving circulation. While some roads could be made one-way, the necessary signage would detract from the cemetery ambience. In addition, with the low traffic volume, we question the need for modifications.

At some point, should traffic increase, it may be appropriate to close redundant roads. If road closures are, at some point, appropriate, we recommend the use of removable bollards that are locked to the road surface. These are manufactured by a variety of companies. Critical issues include the weatherability of the metal (the best is powder coated stainless steel), the keying alike of all padlocks, and the placement of the bollards sufficiently close together to prevent the entry of automobiles.

Instead, at this point, we recommend installation of some limited traffic signs. The first goal should be to remind visitors of a speed limit no greater than 10, and preferably 5, miles per hour.

Rather than installing stop signs on such low volume roads, consideration should be given to the use of yield signs.

## **Road Conditions**

We are told that the cemetery contains 1.4

miles of roads. There is no record of when the roads were installed or paved, although some general estimates are possible based on when different sections were opened.

Whether the roads have ever been repaved is unknown, although there is evidence of patching. Regardless, the typical performance life of hot mix asphalt is 20 to 25 years. We anticipate that these roads have exceeded that life because of the low traffic counts and, in particular, the low number of heavy trucks using the roads.

In order to evaluate the condition of these roads, we examined several road sections. Common conditions included edge cracking, longitudinal cracking, transverse cracking, alligator cracking, pothole patching, and raveling. All were identified in the cemetery.

Edge cracking is recognized as crescent-shaped cracks that intersect the pavement edge and are located within 2 feet of the edge adjacent to the shoulder. This problem is usually the result of an inadequate pavement thickness to support traffic, or displacement of embankment fill.

Longitudinal cracking is found parallel to the pavement centerline and may indicate settlement of the roadbed under traffic, shrinkage of the surface course, or insufficient pavement thickness.

Transverse cracking occurs roughly perpendicular to the pavement centerline. It may indicate shrinkage of the surface course or pavement structure or insufficient pavement thickness.

Alligator cracking is identified as interconnected cracks forming a series of small sharp-angled polygons. The general cause is an unstable base or roadbed. Since it occurs under fatigue conditions it is limited to areas of pavement subject to traffic loads.

Pothole patching may be either temporary, recognized by irregular shapes, characteristic of





Figure 23. Typical road conditions at Resthaven Cemetery. Upper photo shows edge cracking with grass growing in the cracks, alligator cracking, and irregular patching. Lower photo shows transverse and longitudinal cracks, again with grass growing in multiple examples.



“throw and go” using cold bond, or more permanent, with straight cuts. The latter are not counted as defects since they are assumed to function as the original pavement.

We failed to see any indication of recent preventative maintenance and the roads are rapidly reaching the point where such actions may not be cost-effective.

Crack sealing/filling is one of the most common preventative maintenance activities. This places specialized asphalt-based material in working or non-working cracks. Working cracks are those with more than 1/10-inch of movement. These are generally transverse cracks and they typically require routing. Non-working cracks have little or no movement and often include diagonal, longitudinal, or block cracks.

The cold pour sealants are applied at ambient temperatures and do not require heating. This type of material is more appropriate for cracks of 3/16-inch or less in width. Since a great many of the cracks in the roads are well over 3/16-inch, a hot pour crack sealant is a better choice. This material, generally an asphalt cement often with a modifier such as rubber, must be heated and poured into cracks. As the material cools, the hot thermoplastics harden.

Costs of this crack repair technique range from about .25¢ to \$1.00 per linear foot if done in-house. If contracted out, a reasonable cost would be about \$10,000 per mile. Life expectancy may be up to 3 years, although it is best done on a yearly basis.

Most of the roads would benefit from a process known as chip seal. This is an application of asphalt/emulsion followed immediately with a cover of single or multiple layers of aggregate. It waterproofs the surface by sealing low severity fatigue cracks, restoring surface friction. Cemeteries such as Spring Grove (in Cincinnati) apply chip seal on a routine basis in order to maximize the longevity of roads.

A single chip seal application has a cost of

about \$15,000 per mile for single lane roads such as those at Resthaven. A single chip seal has a life expectancy of about 5 years.

Without intervention, it will likely be necessary – within a decade – to either use a 2-inch hot mix overlay or possibly even mill the existing surface and then apply an overlay of new asphalt. These are far more expensive options, averaging about \$100,000 per single lane mile. The cost dramatically escalates if there is damage to the base material and it becomes necessary to reconstruct the roadway.

## Road Edges

All of the cemetery roads lack curbs. Asphalt simply terminates where grass begins. In most areas the grass is never trimmed along the road, resulting in two significant problems. The first is that the roadside has an unkempt appearance, detracting from the cemetery landscape. The second problem is that this vegetation growth exacerbates edge cracks and serves to deteriorate further the asphalt pavement (Figure 24).

All of the road edges should be trimmed on a yearly basis. While this is often done with nylon trimmers, this is a poor technique. A better choice is the use of a commercial walk behind edger. Depending on features, this will cost between about \$800 (McLane 4G-7-P Lawn Edger) and \$3,200 (Husqvarna BE650). The differences between commercial models include their engine horsepower, the depth of their cutting blades, whether or not the cutting blades have carbide teeth, and similar features.

Given the multiple miles of roadbed, a heavy duty model would be a good investment and consumer models, while less expensive, should be avoided.

## Pedestrian Access and Pathways

We believe that most people visiting



Figure 24. Examples of grass growing over and into the asphalt roadway.

Resthaven come by vehicle. There is no nearby bus stop and bike routes are limited. There are sidewalks on both Whitehall and Hospital streets, but the cemetery is over a mile walk from the Washington Square. Once at the cemetery there are no pedestrian pathways, so walkers would likely use the narrow roadways. In many locations, the plots are found above the roadways with steep banks. Relatively few stairs are available from the roadways in those areas. Regardless, we failed to observe informal or social trails, suggesting that

the pedestrian traffic in the cemetery is very limited.

At this point, we see no need for the installation of paths. Moreover, they would create additional maintenance requirements that the city is ill equipped to manage.

## Universal Access

Many who visit cemeteries are elderly and therefore impairments associated with older age should particularly be taken into consideration, especially when cemeteries are amenities for tourism as in the case of Resthaven Cemetery. In addition, while it is not always possible to make a natural landscape fully accessible, partial access is better than none at all.

Steep grades are found in several areas, especially in the newer sections. Such areas will be extremely difficult and dangerous for many people with disabilities to use. The remainder of the Cemetery, however, is more accessible, at least with regard to the slope. Some areas have rough terrain and in a few locations the proximity of monuments can make movement difficult.

The existing grass is a less than ideal surface for wheelchairs and others with mobility or sight disabilities. However, as we have explained, we do not recommend the installation of pathways at this point. However, all future modifications should explore accessibility issues in an effort to maximize access by all citizens.

## Recommendations

- Signage should be erected in the cemetery limiting the speed limit to 10 mph (this can be incorporated in the more general regulatory signage discussed in a following section).
- Yield signs should be installed at bifurcated intersections.
- Many of the roads require the preventative maintenance of crack sealing/filling.
- Other roads in Resthaven require surface treatments, such as chip seal, in order to prevent further deterioration.
- All of the road edges should be trimmed or edged on a yearly basis.
- All future modifications at Resthaven should be evaluated for their impact on universal access. Universal access should be a goal whenever possible.





# Structure Issues

Resthaven includes two structures, including a dilapidated work space owned by the city and a single above ground tomb or mausoleum owned by a family. These will be briefly considered in this section.

## The Work Building

We are told that this structure was used by the crew at the cemetery when there were employees assigned fulltime. Since then, it has remained abandoned.

The structure is wood frame on a concrete foundation. There are at least two layers of cladding with an intervening layer of roll asphalt. The roof is covered in asphalt shingles. There is a single penetration, a door facing east. To the north is a propane tank that was used to supply heat. To the south is a stack of coping and several stones of unknown origin. Both the roof and cladding are severely deteriorated.

The interior is in deplorable condition, filled with trash. We are told it is used for drugs and other illicit activities.

Even if there were some need for this structure, its condition is too deteriorated to be made serviceable. However, it is not being used and we see no indication that a structure is needed by the current work crews.

The structure, its floor, and associated

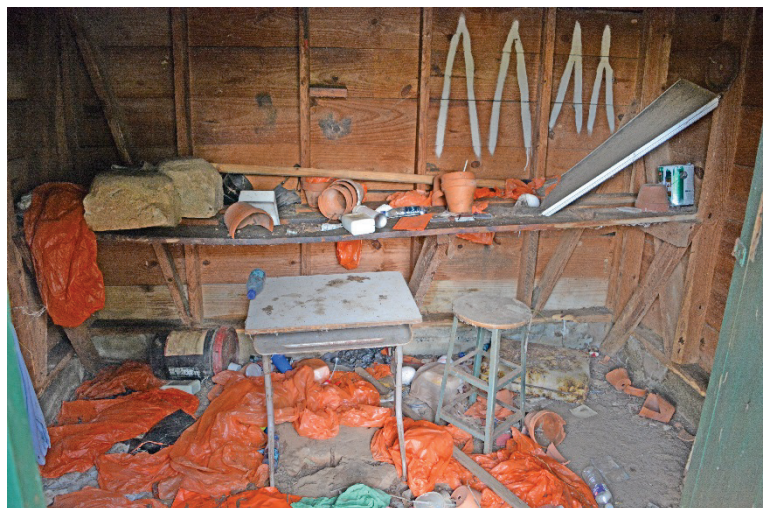


Figure 25. Dilapidated work structure at Resthaven Cemetery.

propane tank should be removed by the city at the earliest possible time. We have been given no indication that it requires replacement.



## The Mausoleum

Resthaven has a single family tomb (Figure 26) and the family is still present in the community. We did not have the opportunity to inspect the interior of the vault and the fence was locked, preventing close inspection of the exterior. We also were unable to inspect the roof. However, some general observations can be offered.



Figure 26. Mausoleum in Resthaven Cemetery.

The vault is approximately square and constructed of granite blocks with a flat slab roof. Detailing apparently covers the slab joints. Original mortar was not immediately apparent, but we were able to ascertain that there have been at least two and possibly three periods of repointing, all poorly executed with very hard Portland cement mortar. Within the next decade, we recommend that the existing mortar be cleaned from the joints and the mausoleum be repointed with Natural Hydraulic Lime 5.0. The compressive strength of this mortar at 28 days is 128 psi (at 24 months it is 1,131psi) when mixed at a 1:3 ratio. It provides high freeze-thaw resistance.

The surrounding granite post and iron rod fence, and the gate, are all present and intact. They do require maintenance in the form of painting.

The specifications for this activity are provided in a subsequent section of this report.

The iron mausoleum gate and interior marble are both damaged. At least one gate hinge is compromised and the gate itself requires maintenance identical to the fence. The hinge should also be reset in the granite surround to make it secure and functional.

The interior marble door is cracked and incompletely closed. Our examination from a distance suggests that repair may be difficult or impossible since the opening and closing of the door will place stress on the repair. Assuming that the vault will not be used in the future, it is likely a better option to gently work the door closed.

We are told that some of the marble plaques within the vault are damaged, but that they are not inscribed. We recommend no action for these plaques.

The vault exterior should be cleaned using full strength D/2 Biological Solution (<http://www.d2bio.com/>) and thoroughly flushed with potable water. Additional specifications are provided in a subsequent section.

## Recommendations

- The wood structure and its concrete floor should be demolished and removed from the cemetery. The associated propane tank should also be removed.
- We provide some initial recommendations

regarding the family mausoleum that should be forwarded to the family for action. They include maintenance of the fence, inspection of the vault roof, repair and maintenance of the outer iron gate, more complete closing of the inner marble door, and appropriate cleaning of the mausoleum.



# Cemetery Security

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Although the questionnaire for this assessment stated that no vandalism was noted for the cemetery, we were told that at least one event has occurred in the past. It received little attention, however, since at that time there was a city police department and we are told an effort was made to prevent the crime statistics from increasing.

Whatever the case, we identified no damage that we can clearly, and convincingly, document as vandalism.

Nevertheless, virtually all cemeteries are occasionally plagued by vandalism. In the nearby community of Athens, Georgia, we have documented vandalism at their cemetery as early as 1911, when an *Athens Weekly Banner* headline announced, “Desecration” with the story reporting that “depredations committed there [would] shock those who have loved ones buried there” (*Athens Weekly Banner*, March 24, 1911, pg. 5).

It was not until 2012 that Georgia limited the purchase of burial objects by secondary metals recyclers (Georgia Code of Laws § 10-1-350 et seq). This law has significantly reduce the theft of bronze funerary objects such as plaques and vases.

## Vandalism

Neither the Foundation nor the city have a formalized mechanism for identifying or reporting vandalism. Nor is maintenance at a sufficient level to preclude the likelihood of vandalism (there is a correlation between maintenance and vandalism).

At the present time, there is no systematic inspection process – by either the Foundation or the city. It seems unlikely that the maintenance staff – so heavily overworked – would recognize vandalism for what it is, or have any idea when it

occurred. It will be difficult to ascertain the level of damage the cemetery suffers without some method of periodic inspection.

There are relatively few studies of the causes of vandalism. Those that exist present a broad range of possible reasons, including poverty, unemployment, disintegration of family life, and availability of drugs and alcohol. Other studies include problems inherent in single family homes and parents that fail to guide their children in social and moral issues. Even the judicial system itself is thought to contribute to the problem by failing to deal more harshly with offenders (see, for example, de Wet 2004).

Unfortunately, cemetery specific vandalism has not been studied and we must rely on studies largely focused on school vandalism to understand the phenomenon (although we have no assurance that the two can be reasonably related). Most school vandals are typically young (junior high school), male, and act in small groups. Participating in vandalism often helps a youth to maintain or enhance his or her status among peers. They have typically done poorly academically and have little or no understanding of how their behavior affects others. They are not, however, any more likely to be emotionally disturbed than their peers who do not commit vandalism. Those who commit vandalism are not likely to be judged harshly by their peers. Youth who lack fulltime parental supervision during after-school hours are more likely to commit vandalism.

To this, we can add that our anecdotal believe that vandalism is linked to alcohol consumption.

Physical measures to reduce vandalism – such as installing fences and erecting lights – have

great appeal. Such projects are easy to understand and physical measures generally have only a one-time outlay of funds. Nevertheless, most authorities agree that vandalism is the combined result of the offenders' characteristics and those of the physical and social environment in which the behavior occurs. If our response is to be effective, we must focus on both the person *and* the environment. Programs that target only one of these variables – such as physical measures – will not be successful in the long-term. Moreover, they run the risk of making the cemetery appear fortress-like.



Figure 27. Situations like this are often attributed to vandalism, but are caused by poor foundations and the sinking of graves.

Unfortunately, measures that examine offender behavior, administrative policies, or community involvement seem more complex and difficult to implement. Group consensus for more complex programs may be more difficult, largely because the possible responses can be overwhelming. To simplify, we will focus on four main tactics: those that impact the physical environment, those that impact the offender, those that focus on administrative practices, and those that enlist the community's help. We encourage the implementation of a balanced approach involving all four tactics and believe that the success of

programs to reduce cemetery vandalism rely on a broad-based initiative.

It is worth reiterating that vandalism does not seem especially pronounced at Resthaven. In fact, during this assessment we were unable to identify a single damaged stone that could clearly and convincingly be attributed to vandalism. Far more common culprits include poorly set monuments and landscape maintenance.

Therefore, while we will briefly mention a few steps that we recommend to minimize future occurrences, vandalism is not seen as a significant threat at present to Resthaven Cemetery.

## Changes to the Physical Environment

### Control access to deter unauthorized entry

The Cemetery boundary is permeable, but there is good and well-maintained fencing between the cemetery and adjacent neighbors.

Fencing could be applied along the railroad tracks, but the distance of over 2,200 feet makes this a very expensive option and one that we cannot recommend at this point.

## Post Regulatory Signage

Access-control signs are an important part of "rule setting" in that they establish the types of activities prohibited in the Cemetery. As discussed in the following section entitled "Other Maintenance Issues," the Cemetery requires regulatory signage. These signs need to be installed at both entrance gates.

## Lighting

Lighting is sometimes seen as reducing



vandalism. There is no consensus on whether well-lit areas or "dark" locations are superior in terms of crime prevention. Cemeteries were not lighted historically. Thus, the introduction of lighting detracts from the historical integrity of the properties, changing the historic fabric. Another issue to be considered is that lighting is only useful if there is someone guarding the property, using the lighting to identify problems. This is not the case in most cemeteries, including Resthaven Cemetery.

We do not recommend that any additional lighting be installed.

### **Repair damage quickly and improve the appearance of the Cemetery**

Clean, well-maintained cemeteries free of debris, free of evidence of past vandalism, and with attractively landscaped grounds are less at risk for vandalism. Consistent maintenance may serve as an "occupation proxy," giving the appearance that the cemetery is under steady surveillance by those concerned about keeping it safe. Conversely, cemeteries with much trash, evidence of damage, or poorly maintained grounds give the appearance of abandonment; if no one in society cares for the property, why should the prospective vandal? Simply put, the appearance of abandonment breeds additional damage and vandalism. Thus, it is critical that the level of maintenance at Resthaven Cemetery be immediately improved.

### **Ensure Ready Access to the Property by Law Enforcement**

Without gates, there is a quick and reliable means for the law enforcement to enter the cemetery – and this is excellent. They must have this access to allow them to pursue and apprehend vandals and others improperly using the cemetery.

## **Offender-Focused Responses**

### **Increase the Frequency of Police Patrols**

Increasing the frequency with which

police patrol the cemetery increases the likelihood that potential vandals will be seen. Even if law enforcement does not enter the grounds during routine patrols, the act of raking their spotlight through the cemetery from Georgia or Whitehall streets, Hospital Drive, or Gordon Drive will give the appearance of visibility.

During our three-days on-site, we observed no law enforcement presence and this is a problem. We also encourage an effort to have the sheriff make at least a weekly patrol through the cemetery. The reality is, however, with a limited law enforcement presence, most of their time is spent reacting, not engaging in proactive policing. This is a funding issue.

### **Use of Electronic, CCTV, or Photographic Monitoring**

An option for hardening cemetery targets is the use of video and photographic imaging technologies. At the high end are systems such as VistaScope – an automated wide-area surveillance system that detects, tracks, and classifies objects in real time on a computer screen. If an object violates a policy set by the user, the software streams live video of the alarm event to the display and can also send wireless alerts to law enforcement personnel. Although an ideal solution, the cost makes such system beyond the reach of most cemeteries.

An alternative, however, is the Flashcam by Q-Star Technology (<http://www.qstartech.com>). This self-contained digital system is motion activated; a photograph is taken (a flash unit allows night photographs at 100 feet), and a customized recorded announcement is played. Units are solar powered, eliminating the need for electrical connections. Photographs are high resolution and time/date stamped. Units can be downloaded wirelessly. Although not inexpensive, they are among the most affordable solutions for cemeteries facing on-going vandalism and theft problems.

Though the initial financial outlay may be significant, over the long term, these surveillance

systems may be less expensive than security patrols. Nevertheless, we would only encourage this outlay if the Cemetery experiences significant problems in the future.

### **Provide Caretakers on the Cemetery Grounds**

The continuous presence of a caretaker in a cemetery can deter potential intruders. At one time, this was achieved by resident superintendents who lived on the property in exchange for rent-free housing. While this is not possible at Resthaven, several other options are possible.



Figure 28. The single example of documented vandalism. Repair of this one monument will cost in excess of \$3,000.

Volunteers should be given readily identifiable t-shirts (distinctive color and logo) to wear when working in the Cemetery and this should be publicized. Volunteers should be scheduled to conduct periodic inspections of the Cemetery during the week and on weekends,

throughout the year. Like police patrols, these visits should be unscheduled and occur at different times and on different days. These volunteers should not confront vandals or other problem makers, but should be eyes and ears, providing a presence in the cemetery and immediately reporting any suspicious activities.

### **Hold Offenders Accountable**

Very few perpetrators of cemetery vandalism are identified and apprehended, and even fewer are prosecuted. Courts are generally lenient with offenders, and in most cases, the damage from an individual incident is seen as minor and does not appear to warrant harsh penalties. However, creative and well-publicized interventions to hold offenders accountable can have both a specific and a general deterrence effect. Restitution programs include a set of administrative and legal procedures to get money from offenders to pay for repair or replacement of damaged property. Publicizing the results of these efforts is important to maintain their deterrent effect.

Both the City and Foundation should ensure that the sheriff's department investigates vandalism and works to secure an arrest. If an arrest is made, representatives of the Foundation should be present in court, testify concerning the impact – and cost – of the damage, and ask for the maximum punishment possible. If no restitution is required by the court, the Foundation should consider civil court action to recover costs associated with professional repair of the damage.

## **Management Practices**

### **Maintain an Inventory of Cemetery Stones and Their Condition**

Vandalism often goes unreported because cemetery caregivers do not know what is present in the cemetery or its condition. Thus, vandalism

can be overlooked as pre-existing damage. Only some of the stones in the cemetery have been photographed. An effort should be made to photograph all of the monuments and make these photographs accessible.

Volunteers must also become familiar with the stones in the cemetery and their condition. While it is obviously impossible to know each stone, volunteers may be assigned specific areas to become familiar with the stones and the condition of the stones in that one area. Inspections could then be conducted at least monthly, if not weekly.

## Community-Focused Responses

### Provide Rewards for Information Concerning Vandalism

Offender-focused responses require that vandals be identified and apprehended. Law enforcement investigations of vandalism incidents can be enhanced by high-quality information provided by community residents and even students from local schools. As seen with traditional "Crime Stoppers" programs, setting up telephone or internet-based tip-lines, offering rewards for information, and guaranteeing anonymity encourages people to come forward with specific information. The most effective programs actively involve volunteers in collecting and synthesizing information for police, and in determining payout amounts in the event of apprehension.

### Create "Cemetery Watch" Programs

Similar to "Neighborhood Watch" efforts, community residents can conduct citizen patrols of Cemetery property during evenings and weekends. Membership and regular participation in voluntary patrols increase when some form of prestige is offered to volunteers. Effective practices include:

- patrolling regularly, but at unpredictable times;
- ensuring volunteers have cell phones for

prompt communication with police or other emergency services;

- engaging in passive surveillance only, and not interacting with potential vandals or intruders in any way; and
- publicizing activities and outcomes through school-based and local media outlets.

As an adjunct to this, residents in adjacent buildings should be especially encouraged to be attentive to problems in the cemetery. Unusual noise, lights, or activities should be sufficient to have neighbors call the police to report their concerns. The Foundation should seek to encourage the active participation of residents surrounding the cemetery, especially in the Center and Washington street neighborhoods. Meetings should be held, preferably in the evening and preferably on the premises of the residents, to allow the Foundation and city to enlist the support of these residents.

In response to a specific problem or rash of incidents, Watch programs can produce short-term reductions in vandalism. However, these programs are difficult to sustain, so the Foundation will likely need to periodically "rejuvenate" the program by holding new meetings and bringing in new participants.

The Foundation should also contact Boy and Girl Scout troops. Involving students in the care of cemeteries, and engaging them in ongoing, active projects will help establish a strong bond in the community.

## Vandalism Records

We recommend that the city develop a form designed for the reporting of cemetery-specific vandalism (Figure 29). This form should include information such as what was damaged, with specific information concerning each stone, including the name and lot/plot; how the stone was damaged (toppled, broken into how many fragments,

CEMETERY SECURITY



Chicora Foundation, Inc.  
PO Box 8664  
Columbia, SC 29202  
803-787-6910

CEMETERY VANDALISM/DAMAGE  
REPORT FORM

Cemetery: \_\_\_\_\_ Number of Stones/Objects Involved: \_\_\_\_\_ Are Human Remains Involved: ☐ yes ☐ no

Grave #: \_\_\_\_\_ Section #: \_\_\_\_\_ Lot #: \_\_\_\_\_

Date/Time Damage was First Observed: \_\_\_\_\_ am/pm Name of Observer: \_\_\_\_\_

Date Last Observed Undamaged: \_\_\_\_\_ am/pm Name of Observer: \_\_\_\_\_

Potential Witnesses: \_\_\_\_\_

Nature of Damage (attach photographs of damage): \_\_\_\_\_

Date Reported to Police: \_\_\_\_\_ Investigating Officer: \_\_\_\_\_

Police Incident No: \_\_\_\_\_ (Attach a legible copy of police report to this form)

Estimate of Damage (attach justification, conservation treatment proposals): \$ \_\_\_\_\_

Owners of Monuments Identified: ☐ yes ☐ no Owners Will Repair: ☐ yes ☐ no ☐ not certain

Follow Up with Police: \_\_\_\_\_

Repairs Undertaken by Cemetery (attach conservation treatment reports): \_\_\_\_\_

Total Cost of Repairs: \$ \_\_\_\_\_ Insurance Eligible: ☐ yes ☐ no Date Claim Submitted: \_\_\_\_\_

Date Claim Approved/Paid: \_\_\_\_\_ Amount of Claim Payment: \$ \_\_\_\_\_

Internal Evaluation for Future Prevention: \_\_\_\_\_

Form Completed By: \_\_\_\_\_ Date(s): \_\_\_\_\_

Figure 29. Example of a vandalism report recommended by Chicora.



scratched, etc.); where is the stone now (was the broken stone gathered up for storage, if so, where is it stored); an estimate of when the damage occurred, including the last time the stone was known to be undamaged; an estimate – from a conservator – of the extent of the damage and cost

is less than \$20 each and the time involved is about 15 minutes. This is something that the city staff, the Foundation or other volunteers could easily accomplish. The NPS article, <https://www.nps.gov/CRMJournal/CRM/v25n2.pdf> provides additional information.



Figure 30. Example of a gate protected with stainless steel cabling that has been painted to blend with the fence.

for repair; a photograph of the damaged stone; when police were notified; when police responded and took a report, with a copy of the report attached; and the outcome of the police investigation.

## Theft

There are no specific records of theft, but we know it is a significant issue in many cemeteries, especially where there are numerous iron gates. These gates are valued in antique stores and are almost impossible to recover once stolen (especially without photographs).

It is a simple maintenance step to use woven stainless steel wire to secure gates to their hinge posts. This allows the gates to open and close, but makes them considerably more difficult to lift off their hinges and steal. The cost to protect gates

is less than \$20 each and the time involved is about 15 minutes. This is something that the city staff, the Foundation or other volunteers could easily accomplish. The NPS article, <https://www.nps.gov/CRMJournal/CRM/v25n2.pdf> provides additional information.

While being homeless is not a crime, many kinds of public conduct are illegal and should be reported to the Wilkes County Sheriff's Department. These include being intoxicated, loitering, prowling, fighting, trespassing, aggressive panhandling, soliciting, urinating and defecating, consuming alcoholic beverages in public, camping or sleeping in public areas, littering, disturbing the peace by loud and unreasonable noises, using offensive words, behaving in a threatening manner, etc.

At present we are told that should

## Dealing with the Homeless

The 2015 Point in Time Survey, which provides a snapshot of people experiencing homelessness on a particular night of the year, has already been discussed for Wilkes County and it identified only eight individuals.

Homelessness is an extremely complex social problem that affects the quality of life in every community. There are no easy solutions. There is a



homeless be encountered the sheriff is contact. This is appropriate.

Should any shopping carts, bedding, or other personal belongings be found secreted away in the cemetery, they should be removed promptly. The landscape must be maintained to prevent hiding places and to ensure clear lines of sight. The cemetery must be kept free of litter and debris.

## Recommendations

- We found no evidence that vandalism is currently a significant issue at Resthaven Cemetery. The city and Foundation should, however, review options to combat vandalism and determine which could be implemented to help harden the cemetery against vandalism.
- All plot gates should have stainless steel cabling used to attach the gate to the hinge post to reduce the potential for theft.
- The cemetery should begin using a form to identify and record evidence of vandalism.
- Homelessness is not a crime; if, however, there are rule infractions (open alcohol, drunkenness, belligerent behavior, etc.), the incident should be reported to local law enforcement. Evidence of homelessness in the cemetery should be countered immediately

# Cemetery Fixtures and Furnishings

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Several cemetery issues sometimes discussed under “fixtures and furnishings” have already been discussed. These include the Cemetery’s buildings, discussed in the section “Structure Issues,” and the boundary fence, discussed in “Security.” Readers should review those sections for additional information on these topics.

## Other Amenities

Benches are the most common amenity in the Cemetery. Most are granite, contributed by the Kettle Creek Pilot Club, although some are private (Figure 31). There are also several iron benches, found on family plots.



Figure 31. Bench on a private lot.

Benches pose several problems for caregivers. Eventually, all benches require some

degree of maintenance. The iron plot benches, while exceedingly beautiful and currently in very good condition, do require painting. Given their value, they should also be secured.

Those placed in common areas become the permanent responsibility of the city, which assumes both maintenance and liability. Often those on private lots are often ignored by the family.

Another factor is the actual use of benches. Relatively few benches appear to be used on a routine basis and their presence may simply attract vagrants or others that will discourage use of the cemetery by the public.

There is currently no prohibition against benches, although they must be approved in advance (Municipal Code, Section 20-1f). We discourage the placement of additional benches in the cemetery.

Urns or vases are also relatively common, especially in the newer section. Typical urns are granite and marble, although concrete is also found. Most are in functional condition, although almost none are being

used as intended. Urns are often sold by monument companies to clients who are unaware of the upkeep. As a result, the urns often hold water,



Figure 32. Example of a concrete urn. The small tree died, but was never replaced. The urn is now broken, but remains on the plot creating an eye sore.

breed mosquitoes, collect trash, are turned upside down, or are just ignored. They are rarely repaired or replaced when broken. They are likely not used since most floral arrangements today come in their own plastic container, rendering the urns and vases redundant. We saw no urns actually planted in annuals or perennials as they were intended to be.

Consideration should be given to prohibiting the introduction of additional urns or vases in the cemetery.

## Recommendations

- The city should consider limiting the introduction of additional benches in the cemetery, both on plots and in common areas.
- The city should consider limiting the introduction of additional vases or urns in the cemetery.



# Landscape Issues

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## Staffing

To refresh the memory of readers, Resthaven Cemetery consists of about 41.4 acres of plots, large open grass areas, and light woods. This is currently being maintained by “approximately three men . . . along with a prison detail of approximately six men,” all of whom work “approximately “8 to 16 hours a week” at the cemetery (they also work on other city property).

If we split the difference in hours, we have nine men working 12 hours a week, or 98 hours a week total. This is the equivalent of about 2.5 FTE for the care of 41.4 acres, making each FTE responsible for complete care of 16.6 acres a week or 3.3 acres per day.

## Salaries

We understand that for this work, the city is paying about \$37,000 in salaries (including city employees, a correctional guard, and the prisoners). This suggests a pay of about \$7.26/hour – what might be viewed as an exceptional bargain.

The Department of Labor’s Occupational Employment Statistics System reveals that the annual mean wage for a first-line landscape supervisor is \$48,790 in nonmetropolitan east Georgia. The annual median wage is \$42,700.

The Department of Labor does not distinguish between full and seasonal workers in its landscaping and grounds keeping workers data. The hourly mean wage is \$13.73, while the hourly median wage is \$12.65. The 10<sup>th</sup> percentile hourly wage is \$9.21.

In addition, it is important to compare these wages to either “living wages” or “self-

sufficiency wages,” which are again calculated specifically for the Wilkes County area. Not surprisingly, \$7.26/hour is not a self-sufficient wage for even a single adult with no dependents (that wage would be \$7.73). The MIT Living Wage calculator identifies the living wage for the same single adult in Wilkes County as \$10.19.

Keep in mind that while single adults willing to work for a self-sufficient or living wage certainly exist, they do not contribute to a stable workforce and tend to be transient in nature. There is also no ability to advance, further devaluing the pay.

No matter now you cut it, the city is getting an extraordinary “bargain,” at least on its face. The question then becomes whether the services being provided are adequate and ensure the long-term preservation of the cemetery. The point of course is that what is cheap may, in the long run, cost a great deal more.

## Job Descriptions

We understand that at present there are no published job descriptions. This is a significant error on the part of the city, for if there is no job description, then it becomes impossible to determine how effectively an employee – even a prisoner – is performing their job.

## Cemetery Landscape Manager

A position such as Cemetery Landscape Manager or Grounds and Facilities Manager is essential. While such a job description needs to be developed by the city, we can offer a few suggestions.

The description should specify to whom

the individual reports. We do not believe it has served the cemetery well to require no written weekly reports. The description should also specify whether the individual will be classified as exempt or non-exempt.

A general statement of duties may be along the lines of, "Directs cemetery program, supervises workers in maintaining graves and equipment."

The individual should have training in equipment such as backhoe, mowers, lowering devices, compactors, trimmers, air compressors, grinders, hand and power equipment, chains, ropes, saws, paint brushes, bars, sod rollers, rakes, heaters, etc. They should also have knowledge of replacement parts, hardware, lubricants, paints, grave markers, records, and miscellaneous reports. They should also be capable of updating and maintaining computer systems.

The work environment should be specified as "Indoor/outdoor all weather conditions." The description should specify that the individual is responsible for exercising supervision over equipment operators, landscape maintenance technicians, and laborers. Physical requirements should include a statement that the individual will be responsible for manual labor including lifting and carrying heavy objects, bending, kneeling, climbing, extensive walking, and the ability to operate cemetery equipment is required daily in the position.

Specific job duties, often referred to as "performance responsibilities," should include such items as: supervises and coordinates activities of workers in providing burial services and maintaining graves and equipment, vaults, and mausoleums; performs turf management; prunes trees and shrubs; responsible for maintaining cemetery grounds, roads, buildings, and equipment; directs the location of burial markers installed by other persons; plans and performs landscaping; plants new trees and removes old ones; hires, evaluates, and disciplines landscape technicians; locate graves, supervise opening of graves, internments, and reinternments; maintain

time records for regular employees and other employees; make purchases in accordance with city policy; make recommendations for equipment purchases and cemetery improvements; assures that the grounds crews' uniforms, personal appearance, actions, and demeanor present an appropriate image to client families; maintains a safe working environment by training the staff in proper techniques and use of safety equipment; manages landscape contracts and contractors to ensure compliance with city standards; and assures that the Cemetery complies with OSHA and EPA regulations and that the employees comply with appropriate regulations. As with most job descriptions, there should be a phrase noting that the list is not all-inclusive and duties will vary depending on the direction of the city manager.

Knowledge, skills, and abilities should include a minimum of three years' experience; knowledge of computerized cemetery systems; understanding the rules and regulations pertaining to the cemetery, including requirements related to lots; and good public relations skills. The description should specify a thorough knowledge of turf management, plant nutrition, equipment repair and maintenance techniques, safety procedures, mechanics, and a working knowledge of mathematics.

The individual must be able to operate tractors, backhoes, loaders, mowers, turf maintenance equipment, pruning equipment, hand tools, and other cemetery equipment. The ability to understand and anticipate problems, to enforce department safety policies and procedures, and to interpret written instructions, maps, schematics, diagrams, reports, and manuals is required. This employee should possess a strong mechanical aptitude, and excellent public relation, supervisory, organizational, oral and written communication skills. The individual must also be able to work as a team member.

The minimum qualifications should be a high school diploma or equivalent, a minimum of three years' cemetery experience, prior supervisory experience in the same or related field,

a valid driver's license, and a clean driving record. The job description must also make clear that continuing education in a related field is expected. It would be appropriate to note that this is a hands-on supervisory position that will manage the maintenance operations at Resthaven Cemetery.

We also recommend that the position statement specifies the individual currently holds or will obtain within 6 months of employment a private pesticide applicator license in the State of Georgia. This license can be obtained free of charge by attending training at the local County Extension Office. The description should also specify that the license must be kept current by obtaining the required continued education training (currently 3 hours of CEUs are required every 5 years).

### **Cemetery Landscape Technician**

This job description can obviously be simpler, although it should still cover all of the previous broad headings. It should indicate that the position is for semi-skilled work in general cemetery maintenance.

Essential duties might include such items as: hand rake around memorials, shrubs, trees and clean up low spots; use hand tools to dig ditches or holes; remove tree suckers and other undesirable vegetation; pick up trash; hand shovel dirt, gravel or asphalt; operate large deck mowers; operate small push mowers; service mowers; sharpen blades daily; clean equipment; wear safety equipment, including eye and ear protection; use shovel, rake, sod roller, etc.; seed and sod; weedeat using gasoline powered nylon trimmers; trash and rubbish removal; chipping vegetative debris; general clean-up of grounds, buildings, lunch room; washing mowers and equipment; general clean-up of tools and return to proper place; light carpentry and painting; repositioning or resetting memorials; and running errands (fill gas cans, obtain parts, etc.).

Knowledge, skills, and abilities should specify that the individual must be at least 18 years old; must have a valid driver's license; must have

and maintain a satisfactory driving record; must have the ability to perform the cited tasks; must be able to work 40 hours a week, plus overtime if required; ability to arrive at work on time; and ability to maintain a regular and reliable level of attendance. We also recommend a statement such as, "high school graduate or equivalent desired" as well as "must be proficient in English."

The work environment should be specified as "Indoor/outdoor all weather conditions." Physical requirements should include a statement that the individual will be responsible for manual labor including lifting and carrying heavy objects, bending, flexing, twisting, stooping, crouching, kneeling, climbing, extensive walking, and the ability to operate Cemetery equipment is required daily in the position.

### **Job Oversight**

Regardless of the credentials or certification, the complexities of Resthaven Cemetery require that the technicians are well supervised and are held accountable for their performance. It is especially important, therefore, that the supervisor(s) be carefully defined. The selected individual(s) must not only be well trained and knowledgeable, but also possess demonstrated supervisory experience. The supervisor(s) must be expected to work alongside the crews on a daily basis.

As will be more fully explained in these discussions, the current crew requires more supervision than they are currently receiving. The Cemetery Landscape Manager must take responsibility for all activities and ensure that standards are fully communicated and achieved.

In addition, it becomes critical for the City, including the cemetery committee and the city council, to take a more active role in the management of the cemetery. While not everyone can be equally well versed in all aspects of cemetery management, this assessment should provide the background for the caregivers to more fully understand what needs to be accomplished.



Elements	Work Performed this month	Problems requiring attention	Suggestions for Improvement
BEDDING PLANTS & PLANTERS			
SHRUBS & TREES			
GROUNDCOVERS			
PERENNIALS & GRASSES			
LAWNS			
HARD LANDSCAPE AREAS			
IRRIGATION			
LIGHTING			
OTHER			

Figure 33. Brief landscape maintenance report.

The Cemetery Landscape Manager should be responsible for providing the city (whether it is the city manager, the cemetery committee, or both) with a written monthly report itemizing activities during the month. This document need not be extensive; Figure 33 provides a brief list that may be helpful. Figure 34 provides a more extensive checklist that the city may find helpful when it independently reviews the condition of the landscape.

## Size of Staff

We typically recommend two workers and one supervisor per 10 acres. This is based on the Boston Historic Burying Grounds Initiative (Atwood et al. 1989) and is particularly suitable for the situation at most of Resthaven since it is estimated that mowing old cemeteries with 3-dimensional monuments requires six-times the labor than modern lawn park cemeteries (Klupar 1962:239; Llewellyn 1998:100).

Thus, for the approximately 41 acres of Resthaven Cemetery, we would recommend a full-time staff of 12 people – six times the number of workers currently devoted to the maintenance of this property. Since we recognize that such an increase will be difficult, we recommend increasing

full-time, permanent staffing to nine; this might include the Cemetery Landscape Manager, two crew leaders, and six technicians.

The current staffing level is impossibly low, they are poorly supervised, and they are poorly trained. Prisoners typically lack the motivation of paid employees and this was obvious as I observed their work. Combined, this affects the ability of the city to have an adequate presence in the cemetery, perform the necessary maintenance, and

help ensure the long-term viability of the cemetery. The higher level of staffing would also help minimize the potential for vandalism and inappropriate activities in the cemetery. The additional care would validate increasing the cost of burial plots and would enhance the opportunity to obtain additional funding from families.

## Appropriate Maintenance

We have previously identified what is demanded by Georgia state law as appropriate maintenance for perpetual care cemeteries. The city manager, the city council, and the cemetery committee should review pages 29-30 to refresh their understanding of what is legally required of them.

Most of these activities are good practice, including weed control, tree trimming, pruning, seasonal cleanup, maintaining the roads, conducting section inspections, survey of monuments for maintenance needs, maintenance of shrub beds, maintaining section signs, maintaining water lines, rehabilitation of barren areas, raking, resetting stones as needed, inspecting and repairing fences, watering newly planted areas, sodding as necessary, identification

## Cemetery Maintenance Inspection Form

Cemetery: \_\_\_\_\_ Date: \_\_\_\_\_ Inspected By: \_\_\_\_\_

Elements	Issues	Good	Requires Attention	Not Applicable	Comments/Location
LAWNS	General Appearance				
	Mowing Height				
	Water/Moisture				
	Edging/Trimming				
	Pest/Disease Control				
	Weed Control				
	Fertilization				
	Other				
BEDDING PLANTS & PLANTERS	Plant condition				
	Water/Moisture				
	Pest/Disease Control				
	Cultivation				
	Staking				
	Dead Heading				
	Trimming				
	Fertilizing				
	Weed Control				
	Edging				
	Mulching				
	Other				
PERENNIALS & GRASSES	Plant Condition				
	Water/Moisture				
	Pest/Disease Control				
	Cultivation				
	Staking				
	Dead Heading				
	Trimming				
	Fertilizing				
	Weed Control				
	Edging				
	Other				

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Elements	Issues	Good	Requires Attention	Not Applicable	Comments/Location
SHRUBS & GROUNDCOVERS	General Condition				
	Water/Moisture				
	Pest/Disease Control				
	Pruning				
	Shearing				
	Trimming				
	Weed Control				
	Cultivation				
	Fertilizing				
	Mulching				
	Other				
TREES	General Condition				
	Water/Moisture				
	Pest/Disease Control				
	Edging/Wells				
	Mulching				
	Pruning				
	Repair				
	Hazards				
	Plant Support				
	Stakes/Wires/Anchors				
	Base Damage/Cirdling				
	Fertilization				
	Other				
IRRIGATION	Heads/Risers				
	Pressure				
	Coverage				
	Controller Settings				
	Leaks				
	Other				
DRAINS/DITCHES	Debris				
	Pollution				
	Other				
FURNISHINGS & FIXTURES	Damage				
	Dirty				
OTHER					

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Figure 34. Form that can be used by the city as an independent evaluation of landscape conditions.

of trees for removal, removal of flowers and grave decorations, removal of wild growth, and inspection and cleaning of catch basins (see, for example, Klupar 1962:226-228).

The importance of maintenance was clearly stated by West, “one thing is certain, the cemetery must be maintained in a proper manner or public confidence will suffer” (West 1917:26). That is almost certainly what has already occurred at Resthaven with a FTE staff of only 2.5 individuals.

The recommended larger – and permanent – crew would also allow the cemetery to train certain employees in the appropriate way to reset monuments, as well as make simple repairs. It would be possible to undertake, for example, an appropriate level of fence maintenance and even begin repairing the collapsing retaining walls discussed in a following section. Operating a permanent crew will also allow the employees to develop a sense of ownership and continuity. It also reduces the need to yearly begin the process of identifying candidates, hiring, and then training, only to lose those employees only a few months later or relying on whatever the prison system wishes to provide.

Consequently, the Trustees must provide a staffing level that will maintain the beauty, dignity, and historical significance of this cemetery.

## **Staff Hiring and Continuity**

Maintaining the continuity of a maintenance staff with a commitment to the preservation of a historic cemetery is critical. It not only serves to help ensure the highest possible quality of care, but also allows the specialized knowledge that accrues to be transferred to new staff members over time.

Obtaining this continuity, of course, demands that the city provide a reasonable pay scale for new workers and ensure that staff do not feel trapped in a dead-end job. This can be accomplished by annual reviews and salary increases, as well as providing staff training

opportunities.

If the city desires professional landscape maintenance it is critical that they expect all employees to be well trained; and employees must act, and must look, professional at all times.

## **Staff Training**

We are told that OSHA health and safety briefings are provided monthly, that there is in-house training for equipment, and that two employees received landscape maintenance training this year. We were also told that a forester taught a pruning class. Given what we observed, we assume that this was tree pruning and not shrubbery.

During this visit there was no indication that either eye or hearing protection were being used. The quality of the pruning conducted during this assessment is very poor. And there are a variety of maintenance issues. All of this called into question the adequacy of the training provided.

Sadly, professional training in the landscape industry, at least among the public, is undervalued. This contributes to rapid turn-over and inappropriate maintenance activities.

Given the large number of trees on the cemetery, the importance of these trees to the vistas and historic landscape, and the potential damage that improper tree care can create, we recommend that the Cemetery Landscape Manager be a member of the International Society of Arboriculture (ISA) and have at least some tree experience.

Certified arborists have a minimum of three years experience in some aspect of tree care and have passed an exam developed by an international panel of experts. The exam extensively covers every aspect of tree care and the individuals must have an acceptable level of knowledge in all areas of arboriculture.

We understand that the cemetery cannot afford its own Certified Arborist. Nevertheless,



Table 3.  
ISA Certified Arborists in the Washington, Georgia vicinity  
(excluding those known to be employed by Wilkes County or City)

Name	Company (if listed)	City	Phone	Email	Credentials
Arron Byer	New Urban Forestry	Athens	(706) 389-0398	Abyer@newurbanforestry.com	ISA Certified Arborist
Roger Cauthen		Colbert	(706) 546-7735	rogercauthen@gmail.com	ISA Certified Arborist
Joseph H. Cox III	Athens Arborist	Watkinsville	(706) 614-0604	athensarborist@gmail.com	ISA Certified Arborist; Tree Climber; Tree Risk
Shawn R. Doonan	New Urban Forestry	Athens	(706) 338-8320	shawn@newurbanforestry.com	ISA Certified Arborist; Tree Risk
Kevin J. Hamman	New Urban Forestry	Athens	(706) 621-9335	kevin@newurbanforestry.com	ISA Certified Arborist; Tree Risk
Robert Haughey *	C&K Services	Washington	(706) 678-7400	bob.cankservices@gmail.com	ISA Certified Arborist
Karen Johanses	Wildwood Mangement	Bishop	(706) 343-1480	wildwoodmgt@bellsouth.net	ISA Certified Arborist
James McElroy	Williams & Associates	Athens	(706) 310-0400	jmcclroy@gaplaning.com	ISA Certified Arborist
Arthur E. Morris	New Urban Forestry	Athens	(706) 389-0398	artmorris@newurbanforestry.com	ISA Certified Master Arborist; Tree Risk
Stanley Ogletree	Bear's Insured Tree Service	Athens	(706) 546-6187	ogletree4175@charter.net	ISA Certified Arborist
Joseph Perloff		Athens	(301) 466-0326	jperloff917@gmail.com	ISA Certified Arborist; Tree Risk
Jon Pierson		Athens	(706) 201-4641	jonpierson1@gmail.com	ISA Certified Arborist
Christopher Quattlebaum	Underbrush	Dearing	(706) 726-2252	jessicaquattlebaum@gmail.com	ISA Certified Arborist
John-Ashley Reese	New Urban Forestry	Athens	(706) 202-7872	johnashleyreese@gmail.com	ISA Certified Arborist
Zachary Reilly	Environmental Consultants, Inc.	Athens	(860) 202-7596	zreilly@eci-consulting.com	ISA Certified Arborist
John F. Ritzler		Athens	(404) 312-0766	john.ritzler@gmail.com	ISA Certified Arborist; Tree Risk
Scott Rushing	Classic City Arborists, LLC	Watkinsville	(706) 340-9370	classiccityarborists@gmail.com	ISA Certified Arborist
Susan Russel		Royston	(706) 201-7893	arborvitals@bellsouth.net	ISA Certified Arborist
Bary Smith	Arborist Services of Evans	Evans	(706) 564 5794	barrysmith@aol.com	ISA Certified Arborist
Mark L. Wiles	Wiles Forest Management	Elberton	(706) 988-6856	wilesforestmanagement@gmail.com	ISA Certified Arborist

ISA Certified Arborist - trained and knowledgeable in all aspects of arboriculture; ANSI Accredited Personnel Certificate 0847

ISA Certified Master Arborist - highest level of certification offered by ISA

ISA Certified Tree Climber - skill and endurance to climb trees, demonstrate high regard for safety, and be able to get the job done off the ground

ISA Tree Risk Assessment Qualification - arborist trained in using the methodologies outlined in the ISA Best Management Practices for Tree Risk Assessment

\* Haughey also serves on the Washington Tree Commission, which may preclude him from providing services to the city

Table 3 provides a list of 20 ISA Certified Arborists within 50 miles of Washington, Georgia. Thus, there is ample expertise for the city to call on when needed.

In 2005, the Associated Landscape Contractors of America (ALCA) and the Professional Lawn Care Association of America (PLCAA) merged to form the Professional Landcare Network (PLANET), which is today the National Association of Landscape Professionals. This organization offers seven certification programs.

The first is the Certified Landscape Technician – Exterior. The exam for this certification is a hands-on field test and candidates specialize in one of five areas: Softscape Installation, Hardscape Installation, Turf Maintenance, Ornamental Maintenance, or Irrigation.

The second is Certified Lawncare Technician. Certification in this area demonstrates a mastery of weed, insect and disease identification/control, as well as diagnosis of common turfgrass problems. The material supports Integrated Pest Management concepts

and pesticide safety – significantly reducing the city's liability for operations.

The third is Certified Horticultural Technician. This certification emphasizes tree and shrub maintenance procedures with candidates concentrating on landscape trees and ornamental woody plant physiology, health care management, and establishment.

The caregivers at Resthaven Cemetery are especially fortunate that the University of Georgia has developed several exceptional training programs readily available either on-line or through DVDs.

One is the SuperCrew series that provides professional training developed in cooperation with industry leaders and endorsed by professional organizations. Topics range from "Being Safe with Grounds Equipment" to "Pruning Ornamentals."

The training is available through 11 DVD programs that can be used to train staff on-site or through individual on-line enrollment. The former has a cost of \$50 per DVD, although the DVDs can

be used to train an unlimited number of individuals and include both English and Spanish scripts. The second option allows a single individual to take the nine lessons self-paced for a total of \$120. The latter option allows the individual to receive a Certificate of Completion after successfully completing the online quizzes. Additional information is available at <https://ugaurbanag.com/certification/>.

The University of Georgia Center for Urban Agriculture also sponsors two certification programs of its own. One is the Georgia Certified Landscape Professional and the other is the Georgia Certified Plant Professional. Both include a testing program that certifies those in the landscape profession who have mastered a thorough knowledge and understanding of job skills. The program is endorsed by the Georgia Green Industry Association, the Georgia Turfgrass Association, the Metro Atlanta Landscape and Turf Association and is officially recognized by the Georgia Department of Agriculture. Each program costs \$165.

The certification test consists of four written components and eight hands-on components. Applicants are provided a 400+ page printed study manual and access to a internet study site developed by the University of Georgia. Additional information is available at <https://ugaurbanag.com/certification/>.

In addition to these training opportunities, the Georgia Center for Urban Agriculture has also developed a computer program known as Hort Management. This program, costing only \$100, provides estimates for landscape maintenance costs, assisting the user in estimating material, labor, and equipment costs. While it provides a bid price, it also indicates a break-even price that would help the city better determine the effectiveness of its landscape management activities. It provides industry averages for time/task data and costs are used throughout the application. Information is available at <http://www.caes.uga.edu/departments/horticult>

[ure/extension/educational-programs-and-resources/landscape-software.html](http://extension.edu/educational-programs-and-resources/landscape-software.html).

The Foundation may help with funding these activities and it is possible that the University of Georgia will provide discounted rates for non-profits and/or municipalities.

Unfortunately no one associated with Resthaven Cemetery has sought additional training in spite of its local availability and affordable costs. Nor is anyone a member of either a local association or the National Association of Landscape Professionals.

The city should not simply provide opportunities for its staff to become certified in different areas, but must insist on continuing education and training for all employees – not simply the Cemetery Landscape Manager.

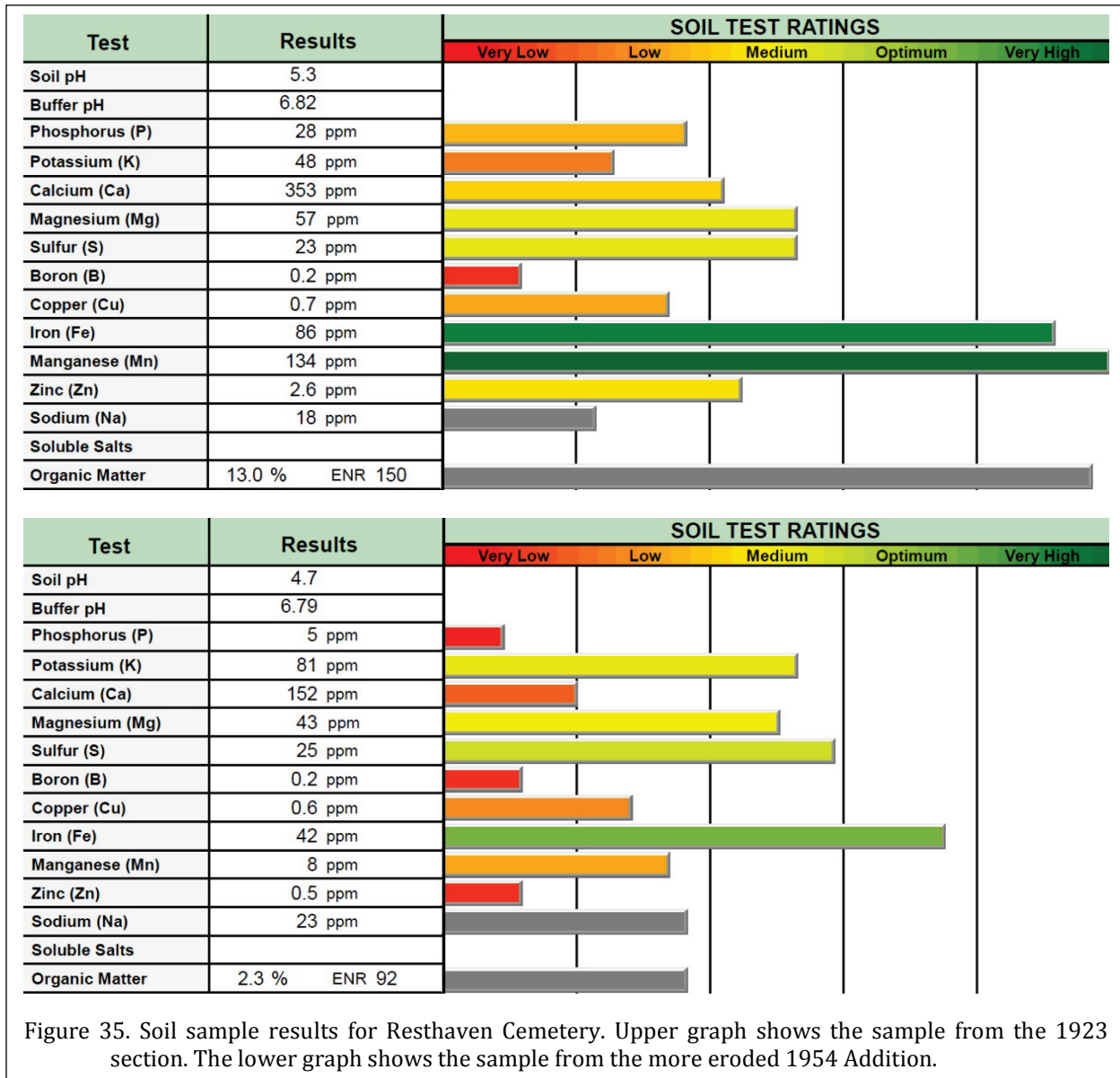
Such efforts would improve the level of care and maintenance and develop a greater sense of stewardship. Eventually this core of trained individuals could also provide in-house training to other staff.

## Cemetery Soil

Resthaven Cemetery reports that no soil sampling for either turf or trees is currently conducted. This certainly can't be a result of cost, since commercial analysis is no more than \$15 per sample by UGA. Regardless, it becomes impossible to manage vegetation in the cemetery if there is no data on the condition of the soils.

It is good practice to test soils every three to five years and we recommend this practice begin immediately. A simple tutorial on soil sample collection is provided at <http://extension.uga.edu/publications/detail.html?number=C896>.

For this assessment samples were collected from two locations: within the 1923 section and in the 1954 addition section. Analysis was conducted by A&L Eastern Laboratories. The results of these tests are provided in Figure 35.



The clay soils have lower cation exchange capacity (2.8 meg/100g) compared to the loamy soils in the 1923 section (3.5 meg/100g). The cation exchange capacity is the maximum quantity of total cations, of any class, that a soil is capable of holding, at a given pH value, available for exchange with the soil solution. It is used as a measure of fertility and nutrient retention capacity, and in general, the higher the number, the higher the soil fertility. The cation exchange capacity can be

improved with the introduction of humus and organic matter. The results of this study show that the tested soils are relatively unable to retain nutrients and thus are infertile.

Organic matter is high in the loamy 1923 section, at 13%, but low in the clay soils of the 1954 section (only 2.3%). The clay soils would benefit from soil amendments, although this is difficult to accomplish in turf soils. More important than the



current levels are changes over time – providing another reason by periodic testing is beneficial.

Soil pH ranges from 5.3 in the 1923 section to 4.7 in the 1954 section, figures that are acidic and outside the optimum plant growth range. In addition, pH levels of 5.5 or lower will reduce soil microbial activity. Liming is recommended to bring the soil pH to 5.8, although a range up to 7.0 is acceptable to many plants.

Phosphorus (P) levels are low or very low. Phosphorus is essential for photosynthesis, seed and fruit production, plant energy production, and cell division. Adequate supplies will promote root growth and formation, greater flowering and seed production, better growth in cold temperatures, and efficient water use. Soil compaction and a lack of aeration – both problems at Resthaven – will reduce phosphorus levels. In general soils with low cation exchange capacities – such as those at Resthaven – will require higher phosphorus levels to supply plants. Similarly, since much of the phosphorus in soils is provided by the available organic matter, if organics are low, the phosphorus will likely also be low (as is the case here for the 1954 section).

Potassium (K) is also essential in photosynthesis, plant growth, and effective response to drought stress. Like phosphorus, it tends to be reduced by low pH and low cation exchange capacities. By reducing compaction and improving aeration, potassium levels are improved.

Calcium, magnesium, and sulfur levels range from low to medium. In general, all three are affected by the soil acidity and the low cation exchange capacity.

Micronutrients include boron, copper, iron, manganese, and zinc. Only iron and magnesium are identified as optimum to high and only in the 1923 section test. Only iron is optimum in the 1954 addition and this is likely because of the clay soils. Otherwise, these micronutrients are low to very low. Some micronutrients, especially boron,

are easy to over apply. Therefore, we recommend waiting for a second series of soil tests to confirm the problem (once other issues, such as soil pH, have been corrected).

This brief discussion reveals that the availability of many plant nutrients is being affected by the low soil pH. Thus, while fertilizers could productively be used in most areas, we recommend instead that an effort first be made to raise the pH and then conduct additional soil tests to further evaluate macro and micronutrient levels.

Dolomitic lime, which contains both calcium and magnesium, should be applied using a broadcast spreader prior to rainfall at the rate of 20 pounds per 1,000 square feet. Up to 30 pounds per 1,000 square feet can be applied on the clay soils in the cemetery. Lime can be applied anytime of the year unless the ground is frozen or covered with snow.

Since different fertilizers are recommended the two areas tested (10-0-20 for the more loamy areas and 10-20-15 for the clay area), we recommend that no fertilizers be applied until additional tests have been conducted throughout the property.

If or when in the future fertilizers are to be applied, slow release organic fertilizers are preferable to commercial inorganic fertilizers since they have significantly lower salt indices. An excellent source explaining the differences between organic and inorganic fertilizers is [www.ext.colostate.edu/mg/gardennotes/234.pdf](http://www.ext.colostate.edu/mg/gardennotes/234.pdf). The publication at <https://athenaeum.libs.uga.edu/bitstream/handle/10724/12381/C853.pdf> provides information on converting traditional inorganic fertilizer recommendations to safer organic recipes.

## Cemetery Trees

### Selection Issues

Cemeteries, in general, have historically been dominated by large deciduous trees, although

evergreens such as cedar are also very common. The trees provide a distinctly inviting image for visitors and passersby. They also provide some visual separation from adjacent buildings – especially in cluttered urban environments. They provide shade, reduce stormwater runoff, stabilize soil, and reduce evaporative water loss.

Ideally the trees selected should be historically appropriate. At Resthaven, we have no information regarding the planning or any early landscaping that may have been conducted. Today, the plantings are a mix of recent introductions and trees that occur naturally. Therefore, we have to select “generic” trees that are appropriate in most situations.

Some trees, whether historically appropriate or not, should probably be avoided since they pose significant maintenance issues. These include trees that produce dense shade (causing problems with the turfgrass); trees that exhibit suckers or surface roots (also causing turfgrass problems); trees that drop large quantities of leaves, seeds, or sap; and trees that are especially weak or vulnerable to wind or ice damage.

Obviously, there is no such thing as a perfect tree. Many of the historically appropriate species have significant problems as shown in Table 4. At least some of these problems, however, can be overcome through judicious placement, appropriate planning, and careful early pruning.

## Replanting

Trees should be replanted as older ones are removed and a general effort should be made to plan for future tree replacement, perhaps using a mix of fast-growing but short-lived trees intermixed with slow-growing but long-lived trees to create a planned appearance.

It is also appropriate to plant replacement trees in anticipation of their need, allowing them an opportunity to become established before the diseased or damaged tree is removed.

## Planting Issues

Locations chosen for planting should not interfere with gravestones, curbing, or fences. Issues of security should also be considered and the use of small trees that obscure eye level views should generally be limited or avoided.

Research is suggesting that trees, especially older mature trees, improve in health when turfgrass is removed under the branch spread and mulch is applied at a depth not exceeding 3 to 4-inches. Fine-textured mulches prevent evaporative water loss better than coarse-textured mulches. This is a practice that could be productively employed at the Resthaven Cemetery, especially in the older cemetery sections. Staff should be closely supervised to prevent over mulching of vegetation.

All replacement trees or new plantings should be of at least 1-inch caliper and meet the minimum requirements of the American Nursery and Landscape Association’s American Standard for Nursery Stock (ANSI Z60.1-2004). This is available at [http://www.nurserycropscience.info/cultural-practices/pruning/other-references/american-nursery-landscape-association-standards-2004.pdf/at\\_download/file](http://www.nurserycropscience.info/cultural-practices/pruning/other-references/american-nursery-landscape-association-standards-2004.pdf/at_download/file).

Once planted, young trees must be well tended. This usually includes ensuring they have water and are protected from animal and mower damage. Some also require early pruning to ensure they develop properly.

There are a variety of water bags for young trees, including the Treegator (<http://www.treegator.com>). In fact, bags are now readily available in big box stores.

Young tree trunks can be protected from trimmer and animal damage using rigid tree guards (<https://www.amleo.com/leonard-rigid-plastic-mesh-tree-guards-set-of-5/p/VP-BG/>).

## Tree Maintenance

Maintenance involves at least four basic



Figure 36. Bare ground and exposed roots under a magnolia where mulch should be installed in lieu of turf.

issues: watering, fertilization, pruning, and pest control.

## Watering

The cemetery does not water trees, relying instead on rainfall. While this is typically acceptable, the landscape plan should include provisions for deep-root water during periods of severe drought (assuming this is permissible). This

is a critical step necessary to protect the historic landscape fabric of the cemeteries. Using a root feeder without fertilizer, it is possible to apply water 12-inches below the surface. This approach can not only be used during severe drought, but also during extended periods of dry weather during the winter (as long as the temperatures are above freezing).

## Fertilization

The staff also reports that no tree fertilization is conducted, presumably because of the funds required. The trees in Resthaven Cemetery are vital components of the landscape. They represent part of the historic fabric and steps must be taken to protect that aspect of the landscape and vista.

Our soil testing reveals that liming is necessary and many of trees would likely benefit from fertilization and the additional application of boron in the form of

broadcast borax.

Fertilization should be conducted on the basis of need as excess fertilization can damage trees; nevertheless, the ISA position is that, "tree fertilization should be done in accordance with ANSI A300 standards" (Lilly 2001:47). These ANSI A300 (Part 2)-2011 standards represent the standard of care of the industry. This is why more proactive involvement by certified arborists in



Table 4.  
Comparison of primarily historically appropriate trees that might be used in Resthaven Cemetery

Common Name	Scientific Name	Origin	Zone	Cultivation Light	Drought	On City List	Size (HxS)	Litter	Breakage	Roots	Notes
American Ash	<i>Fraxinus americana</i>	Native: 1724	3-9A	PS-FS	M	No	50-80x40-60	Moderate	Weak	Problem	Not tolerant of urban soils or heavy clay. Threatened by emerald ash borer.
Green Ash	<i>Fraxinus pennsylvanica</i>	Native	3-9A	FS	H	Yes	60-70x45-50	Moderate	Weak	Problem	Threatened by emerald ash borer.
American Elm	<i>Ulmus americana</i>	Native: 1670	2-9	PS-FS	M	No	70-90x50-70	Moderate	Weak	Problem	Michael Dirr (1998) recommends "Valley Forge", "New Harmony", and "Princeton" as respectably disease tolerant.
American Linden	<i>Tilia americana</i>	Native: 1752	3-8	PS-FS	M	Yes	50-80x35-80	Moderate	Weak	No Problem	Good specimen tree; typically more formal landscape.
Arborvitae	<i>Thuja occidentalis</i>	Native: 1536	2-7	PS-FS	M	No	25-40x10-12	None	Resistant	No Problem	Good screen or hedge plant; not commonly used as a specimen plant.
Eastern Red Cedar	<i>Juniperus virginiana</i>	Native: 1664	2-9	PS-FS	H	No	40-50x10-20	None	Weak	No Problem	Planted for "perfect columnar growth" and traditional cemetery tree.
Post Oak	<i>Quercus stellata</i>	Native	6-9A	FS	H	No	40-50x35-50	Moderate	Resistant	No Problem	Not widely available in nurseries.
Red Oak	<i>Quercus rubra</i>	Native: 1783	5-8A	FS	H	Yes	60-70x50-60	Moderate	Weak	Problem	Not as popular as elm and maple.
Sugar Maple	<i>Acer saccharum</i>	Native: 1735	3-8A	S-FS	M	Yes	50-80x35-80	None	Resistant	No Problem	Excellent colors through all seasons; frequently used for ornamental plantings.
Weeping Willow	<i>Salix babylonica</i>	Exotic: 1730	2-9A	PS-FS	H	No	45-70x45-70	Moderate	Weak	Problem	Roots are especially aggressive.
White Oak	<i>Quercus alba</i>	Native: 1724	3B-8	PS-FS	M	No	60-100x60-80	Moderate	Resistant	No Problem	A northern oak; was a favored tree, however.
River Birch	<i>Betula nigra</i>	Native	4-9A	PS-FS	M	Yes	40-50x25-30	None	Resistant	No Problem	Requires early pruning to prevent drooping.
Crape Myrtle	<i>Lagerstroemia indica</i>	Exotic	7-9A	FS	H	No	10-30x15-35	None	Resistant	No Problem	Many cultivars; some mildew resistant.

Light: shade, part shade, part sun, full sun; Drought: moderately to highly tolerant; Size shows height x spread in feet; Roots reflect the presence of surface roots or roots that lift sidewalks. Data from USDA, Forest Service Plant Fact Sheets, Adams (2004), and Simonds (1917).

cemetery maintenance is essential.

Fertilization is typically accomplished through deep root fertilization – an approach where the liquid fertilizer is injected into the soil with a probe, usually 6 to 12-inches below the surface at a spacing of about 2 to 3 feet. This process not only provides fertilization, but also some aeration of the soil. An alternative approach uses a drill to excavate holes in a similar pattern which are then filled with a granular fertilizer. Either is acceptable. The ANSI 300 standards allow foliar applications, injections, or implants only when soil application is impractical or ineffective.

It is best to fertilize trees when they are actively growing and have available water to help absorb nutrients. In Washington this is typically from the spring, after new leaves emerge, through mid-season. Fertilizer should not be applied late in the season, during the winter, or during periods of drought.

In a cemetery setting organic fertilizers should be the primary choice. These materials, such as cottonseed meal and bone meal, have much lower salt indices than inorganic fertilizers – resulting in reduced salt uptake by monuments. This is important since salts cause staining, spalling, and deterioration of marbles, sandstones, brick, and even granites. In addition, organic fertilizers have a slower release rate and are easy on the root systems.

## **Pruning and Hazardous Trees**

The overall health and condition of many trees at Resthaven Cemetery is poor and it appears that little attention has been directed to pruning or the removal of hazardous or sickly trees. In spite of this we are told that trees “around walkways” are pruned regularly (although there are no walkways in the cemetery, so this is unclear).

We are also told that the city’s tree commission inspects for hazardous trees, although there are no written reports.

Hazard trees are those that can reasonably be expected to pose a hazard to monuments in the cemetery. This is not an ISA risk or hazard assessment using the Matheny and Clark system or some similar rating program. In fact, most of the trees identified as potential hazards are dead, dying, or badly storm damaged. A few have other obvious defects.

The presence of so many trees that require removal from the cemetery in the near term is very disturbing since it will be difficult for the cemetery to recover from such an extensive modification. We would have no objection to the phasing of some trees to allow an opportunity for replanting to occur.

We also observed a great number of “wild” cherry laurels or trees that have self-seeded. These often occur in clumps, resulting in crowding and overall poor health. In addition, cherry laurels are not a good cemetery tree, although they have desirable characteristics, such as their drought tolerance and resistance to breakage, they produce huge amounts of litter and rapidly self-seed. They should only be used sparingly and where they are grown where trained to a central leader and where seedlings can be (and will be) controlled.

As a result, we recommend the removal of large number of these cherry laurels, with replacement by more suitable trees (see Table 4).

There are examples of established trees interfering with monuments, fences, and even other trees.

In the case of tree vs. monument, the course of action depends on the size and value of the tree. In the case of small trees or trees of limited landscape value, the tree should be sacrificed and, if appropriate, a new tree planed elsewhere. Where the tree is large and/or of great value, there are two options. It may be that the monument can be moved slightly on the grave to avoid the tree. In other cases, it may be prudent to wait for the time when the tree declines in health and requires removal.



Figure 37. Examples of dead or dying trees that should be removed from the cemetery. Upper left shows dying cedar that has been topped and has few branches left; upper right shows severely damaged cedar, where pruning may be sufficient; lower left shows dead tree; lower right shows dead tree in the midst of one still alive.





Figure 38. Other tree problems at Resthaven Cemetery. Upper photo shows a cluster of cherry laurels, including dead wood. The dead wood should be removed and the cherry laurels thinned to leave one or two specimen trees. Lower left photos shows a tree growing too close to a monument. The tree should be removed or the monument set back about 2-feet. Lower right photo shows a large, mature crepe myrtle growing into a granite box tomb. In this case there is little that can be done until such time as the tree is removed.





Figure 39. Other tree problems at Resthaven Cemetery. Upper left photo shows a holly that has grown into a crepe myrtle. The holly should be removed to promote the health and growth of the crepe myrtle. Upper right shows saplings growing up into a nandina bush at the fence edge. These saplings will eventually cause damage to the fence and should be removed. Lower photos show large trees growing into ironwork and displacing the brick foundation. Both should be carefully removed to prevent additional damage to the fences.





Figure 40. Stumps in the 1923 section where cedars originally lined the roads.

In the case of tree vs. fence, the best practice is to usually remove the tree, if that can be done safely. Ironwork is of very great value and measures should be taken to ensure its long-term preservation and protection from damage. In such cases only a ISA Certified Arborist should be retained to remove the tree. Generally this will require that it is taken down in sections. It may also be impossible to totally remove the ironwork from the tree growth, in which case the stump should be allowed to rot until such time as the fence and wood can be safely separated.

There are also some cases where two trees have been allowed to grow up too close to each other, stunting growth and reducing the health of both. In such cases, the tree of greater value should be retained and the other tree removed.

There are also a large number of stumps throughout the cemetery offering mute testimony to earlier tree losses. Many of these represent long removed trees, where the stump, typically 1-2 feet above grade, is in some stage of decay. These present a hazard to pedestrians both as a result of the stump hole, but also as a result of the often jagged wood.

Stumps in a cemetery should be removed as close to the ground as possible.

Once cut to 1-2 inches above grade, stumps should be allowed to decay naturally. No chemical additives should be used to hasten decay, although it is acceptable to paint an herbicide on the stump if it is a tree that will promote suckers. Stump grinders should **rarely** be used in the cemetery – there is simply too great a risk of damage to graves.

Another significant problem in the cemetery are the number of diseased dogwoods. These have been planted throughout the cemetery and in most cases are faring very poorly.

While dogwoods can grow in full sun, they prefer partial sun/partial shade. In addition, they are only moderately drought resistant. We believe that the trees in the cemetery have been poorly tended and simply not thrived, resulting in the stunted, unhealthy conditions we see today. There is also evidence of mower damage on many of the trees.

We recommend that many of these dogwoods be removed and replaced with an alternative tree, perhaps crepe myrtle. In some cases cedars may also be appropriate. We would use dogwoods only where they are in partial shade and only if the city is prepared to use water bags during periods of drought.

There are trees in most of the older sections that require pruning for either thinning or



Figure 41. Dogwoods in poor health. The specimen on the left is spindly and exhibits abundant lichen. The specimen on the right has die back and extensive damage of the trunk, probably from mower hits.

cleaning. Thinning is a technique of pruning that removes selected branches to increase light and air movement through the crown. This also decreases

weight on heavy branches. The natural shape of the tree is retained and its overall health is improved.

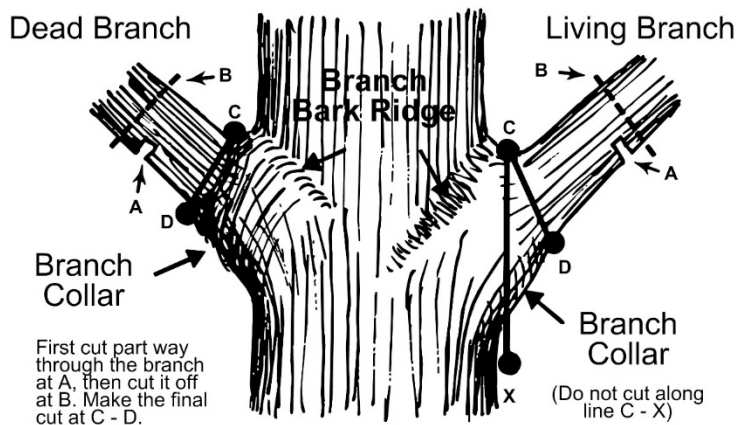


Figure 42. Proper pruning technique.

In cleaning, the pruning removes branches that are dead, dying, diseased, crowded, broken, or otherwise defective. This includes narrow crotches.

Trees should be pruned in such a manner as to preserve the natural character of the plant and in accordance with ANSI A300 (Part 1) - 2017 standards. This often will require the use of an ISA Certified Arborist with specialized knowledge and training. The ISA Certified Tree Worker/Climber Specialist has knowledge in the major aspects involved in tree care including



pruning, removal, cabling and safety. These are critical skills when working among historic monuments.

In pruning, branches should always be cut just beyond the branch collar (an extension of the main stem) and not flush with the trunk. Large branches should be removed with three cuts to prevent tearing of the bark that can weaken the branch and lead to disease.

We have previously provided a list of certified arborists within 50 miles of the cemetery (Table 3, page 61). The city should require that any tree work conducted in the cemetery be done by one of these firms – or a firm that includes an ISA Certified Arborist. The cemetery trees and surrounding monuments are too valuable to trust to an individual without training, experience, and understanding of tree anatomy.

Some trees in the cemetery exhibit thick growth of English ivy, or occasionally poison ivy. Both plants are bad for tree health and should be removed. This is a simple process of cutting the

vines as close to the ground as possible and painting the cut stems with an herbicide such as Garlon. In some cases this will need to be done several times, but it will eventually kill the vine roots and the vines above the cut will die and gradually fall from the tree.

A final problem found seemingly randomly in the cemetery is improper pruning of crepe myrtles where what is called “crepe myrtle muder” has occurred with the improper severe pruning of the tree, leaving what is a “witches broom” appearance and is no longer in proportion. This pruning causes profuse growth at the pruning location, encourages additional basal sprouting, and increases susceptibility to disease and insects. The resulting new growth is too dense to allow air movement and light to reach the inner branches. Repeated, improper pruning will result in large, unsightly “knobs.”

It helps to recall that crepe myrtles are trees – not shrubs. Figure 43 shows an example of this severe – and inappropriate – pruning next to a crepe myrtle that has been spared.



Figure 43. Crepe myrtle murder. On the left is a crepe myrtle that shows its natural proportions and beauty. On the right are two photos of improper pruning, the resulting “witches broom” growth, and the beginning formation of knobs at the far right.



Recovery is possible, but it requires strict attention to detail and careful pruning. If there are knobs, they must be cut off during the dormant season. As thin shoots grow from the ends of the stumps, one or two at each stump should be selected for retention. The remainder should be pruned off. This process will need to be repeated for the next three years (four years total). No new sprouts should be allowed to grow from the ends of the stumps next to the ones you saved. Train the shoots to grow up and out. Remove side branches that grow to the center of the tree. The saved branches will become the new main trunks.

Trees should be inspected for potential threats to monuments, as well as general health. Ideally these inspections should be made yearly and after any storm where the winds exceed 55 mph. They should be pruned to remove potentially hazardous dead wood on a yearly basis, but safe pruning every 5 years by a certified arborist is acceptable. Rigging and/or a crane must be used to minimize the potential for damage to stones or the landscape. Under no circumstances are tree climbers (hooks, spikes, gaffs) to be worn while ascending, descending, or working in trees to be pruned.

### **Pest Control**

During this visit we observed no obvious evidence of pests but Georgia is at risk for a great many problems, including the Emerald Ash Borer, Sudden Oak Death (a fungus), Laurel Wilt Disease, Sycamore Anthracnose, and the Woolly Adelgid. Given the importance of the trees to the cemetery landscape, it is of critical importance that the Resthaven Cemetery trees be very carefully inspected by a Certified Arborist on at least an annual basis.

## **Shrubs**

Historically, most city cemeteries were not planted in shrubs and those that are present were, presumably, planted by lot owners – many of whom are long dead. As a result, their maintenance falls back on the city.

## **Selection and Planting**

Most shrubs appear to be individual specimens, probably anticipated to serve as accents. Shrubs identified in the cemetery are primarily boxwood and nandina, with fewer numbers of arborvitae and holly. Relatively few bulbs were identified, with iris being most common. English ivy was also observed, although primarily climbing trees.

The number and placement of plantings is not particularly effective overall since they lack a unifying or cohesive theme. The one location where there was, at some point, something approaching a planned landscape is a boxwood hedge at the north entrance separating the two roads leading to the 1923 sections. However, that hedge was recently heavily impacted by improper pruning, which has reduced it to little more than sticks.

Elsewhere, the unifying theme appears to be years of neglect, resulting in most of the shrubs being invaded by a variety of other vegetation, including small trees and vines. This has been coupled with very poor pruning that has either created artificial, fanciful shapes or reduced the shrubs to mere sticks.

As with trees, when shrubs require replacement, they should generally be replaced with like material, especially if they represent plants traditionally used in cemetery settings. If planting lists cannot be located for the cemetery, plants such as forsythia, hydrangea, lilac, and memorial rose (in addition to those identified) are all known to be period appropriate.

## **Fertilization**

As with trees, the best indication of the need for fertilization is a soil test, which should be performed at least every three to five years. While some shrubs, such as boxwood, provide an indication of deficiency through the yellowing of lower leaves, such evidence can be missed and does not indicate the extent of the problem.

Where fertilization is necessary most

shrubs, because of their shallow root systems, respond adequately to broadcasting the appropriate organic fertilizer around the base of the plant, typically at the drip line.

Most shrubs should be fertilized when they are actively growing and have available water to help absorb nutrients. Broad-leaved evergreens, such as boxwood, are best fertilized in the winter or spring. Summer or fall fertilization of these plants may induce late season growth that is highly susceptible to winter injury.

## Pruning

It is again in the category of pruning maintenance that we see significant problems at Resthaven Cemetery. The two most obvious problems are inappropriate or technically incorrect pruning and the failure to remove weedy plants and vines from shrubs.

Examples of inappropriate pruning include a variety of unnatural and fancifully shaped creations and pruning that tapers inward from the top, preventing adequate light penetration. The latter created the accumulation of significant amounts of deadwood. Virtually all of the pruning appears to be done using shears, instead of clippers. This was even observed during this assessment. The continuous shearing of the shrubs has caused a thick outer shell of foliage which creates dense shade on the interior branches. This continuous shade has resulted in significant foliage drop, decreasing the health, value, and aesthetics of the plants.

Shrubs are best pruned, rather than sheared, to maintain a natural shape and to keep plants at a desired size so that they do not outgrow their landscape too quickly.

Allowing weedy plants to overtake shrubs detracts from their beauty and natural shape. Many of the shrubs in Resthaven look as though they have grown whiskers.

It appears that the shrubbery at Resthaven has been ignored for a very long time and, as a

result, many of the plants are in poor condition. Those that can be saved by careful pruning should be. Those that are dead or that cannot be rehabilitated should be removed and similar species replanted.

The condition of the shrubbery at the cemetery provides an excellent example of why only trained and certified staff should be allowed to work in a cemetery landscape. The plantings at a cemetery cannot be easily replaced and, in fact, represent artifacts just like the stones themselves. It is essential that the city re-evaluate the level of maintenance being provided to the cemetery.

## Proper Pruning

In general, summer-flowering plants should be pruned before spring growth begins since these produce flowers on the current season's growth. Spring-flowering plants, such as forsythia, should be pruned after flowering since they produce flowers on the previous season's growth.

By-pass pruners are generally chosen for most pruning tasks in either 6 or 8-inch lengths. The pruners must be very sharp and it is good practice to sterilize the pruners by dipping them in a 10% bleach and water solution between plants.

We provide some general instructions below, but staff that are to undertake pruning should receive specific, and detailed, training.

## Pruning Boxwood

Boxwood tends to develop a very dense growth habit. This thick foliage can be a major factor in disease development. In addition, the dense outer foliage, especially if the plant is sheared, will encourage outer growth, while everything on the plant's interior dies from lack of sunlight.

Annual thinning brings light and air into the interior of the plant and encourages the growth of new foliage within the canopy that can take over





Figure 44. Poorly pruned shrubs at north entrance. Top photo shows what is left and bottom photo shows a mix of boxwood shrubs and cherry laurel trees.





Figure 45. Improper pruning. Top photos show fanciful, unnatural shapes that prevent light from entering and promote excessive exterior growth. Middle left photo shows an improperly pruned boxwood from the outside. Middle right photo shows the dead wood on the interior that same boxwood. Lower left photo shows prison detail using a gasoline shear. Lower right photo shows improper pruning, leaving nothing from woody stalks with jagged, torn cuts.





Figure 46. Additional pruning issues. Upper left consists of a poorly pruned shrub with a tree growing out of the top. Upper right consists of a remnant nandina with multiple trees and vines overtaking it – and all pruned to the same height. Middle left shows a clump of vegetation consisting of a tea olive, dead wood, and multiple trees all grown together. Middle right shows a poorly pruned boxwood with vines and dead wood. Lower left shows a family plot with overgrowing arborvitae. Lower right shows the opposite side of that same lot with multiple scrub trees that were allowed to grow and were not appropriately removed.





Figure 47. Dead shrubs are a blight on the landscape and should be removed.

for branches damaged by ice or snow.

Boxwoods can be trimmed at any time of year, but for plant health it's best to avoid pruning in the late fall as this may expose new, tender growth to freezing weather. Often they are pruned in the early spring, after the threat of deep freezes is over.

Some boxwoods are in such poor condition they require renewal pruning. This technique usually involves cutting the plant back to within 6 to 12 inches of ground level. This is not the best approach for boxwoods and the plant is likely

to decline and die. A better approach is avoid drastic removal and instead cut back stems over a period of three years. At the first pruning, remove one-third of the old, mature stems. The following year, take out one-half of the remaining old stems and head back long shoots growing from the previous pruning cuts. At the third pruning in yet another year, remove the remaining old stem and head back the long new shoots.

An excellent overview of reviving and pruning boxwoods is available at <http://www.usna.usda.gov/Gardens/faqs/BoxwoodThinning.html>.

### Pruning Nandina

The ordinary nandina present at Resthaven Cemetery grows lanky and bare at the bottom of the plant over time. Pruning should be conducted when the plant is dormant in the winter.

There are several pruning methods. For plants that are in generally good condition, but neglected, one-third of the main stalks can be cut to the ground every year for 3 years. Maintain a natural appearance by pruning each stalk to a different height, cutting back to a tuft of foliage. Remove old and weak branches to encourage new growth. This will gradually restore a full and compact look.

For more badly neglected nandinas, more drastic pruning is warranted. Cut a quarter to a third of the stems down to the ground, being sure to spread those being removed out throughout the plant. Then cut another third of the stems about halfway down. Again, spread them out. Leave the final third alone. The plant should look thinned out and balanced – not pruned. Using the one-third method will help ensure that the thicket is thinned without creating a foliage-on-top-of-sticks look.

## Plants Too Close to Stones

There are examples of shrubbery at Resthaven Cemetery that have been planted too close to stones and monuments. As the plants have matured, they have overgrown their location, overtaking the monuments. In some cases the shrubs have been very unnaturally pruned around the monument. In such cases the correct approach is to prune severely in an effort to bring the plants back into scale with their surroundings.

This approach takes the plants back to within 6 to 12-inches of ground level before spring growth begins. Pruning in late fall or midwinter may encourage new growth that can be injured by cold. If successful, renewal pruning will result in abundant new growth by midsummer. Once the new shoots are 6 to 12 inches long, the tips should be pruned to encourage lateral branching and a more compact shrub.

Renewal pruning works well with most broadleaf shrubs, while narrow-leaf evergreens (such as boxwood) do not respond well when severely pruned and may actually decline (as previously discussed). A better approach for these narrow-leaf evergreens is cutting them back slightly and transplanting – moving them away from the stones they are obscuring.

Figure 46 shows arborvitae overtaking stones. This plant does not respond well to pruning and the problem can be traced back to planting an incorrect species that is simply too large for the space allotted. They may either be lived with or entirely removed and replaced with appropriately sized specimens.

Finally, Figure 47 shows a variety of shrubs that are dead, but have not been removed from the landscape. This is simply poor maintenance and these plants should be removed and, if appropriate, replaced with new species.

## Turf

Turfgrass should be an important concern

of cemeteries, although rarely is it given adequate attention. With an appropriate turfgrass, mowing frequency is reduced. This reduces labor costs, pollution, equipment expenditures, and perhaps most importantly for historic properties, damage to the stones.

The cemetery lacks a defined type of turf and what is present may be described as “mixed grass.” Where solid stands of a turfgrass exist, it is either centipede or in a few cases Zoysia. Much of the cemetery, however, is dominated by broad leaf “weeds” – undesirable species that cause the grounds to look unkempt and require frequent mowing to keep them in check. We identified areas of bare ground, largely the result of erosion or tree cover.

It is clear that the cemetery turf has received little attention beyond mowing. This has led to an overall decline in appearance and an increase in maintenance costs.

## Mowing

Mowing at the cemetery is conducted by a combination of 21-inch push mowers, and 47 and 60-inch zero turn mowers. The push mowers, we are told, are used in the older sections with dense monuments, while the large deck mowers are used in areas that are more open, typically the newer or undeveloped sections.

Stones in the cemetery clearly reveal the damage that can be done by equipment and less than perfect handling.

The city initially reported that mowing is conducted during the growing season every two weeks. Upon further discussion, it was revealed that six weeks is required for the available crew to mow all of the city properties from start to finish. Therefore, it seems more reasonable to estimate that the cemetery is mowed every six weeks. Generally weedy turf must be mowed twice a month during the growing season in order to keep it looking decent, but this is clearly beyond the capabilities of so limited a staff.

This mowing schedule is unacceptable and fails to meet the most minimum cemetery standards.

In an effort to “make the mowing last,” it appears that the grass is being cut very short in many areas.

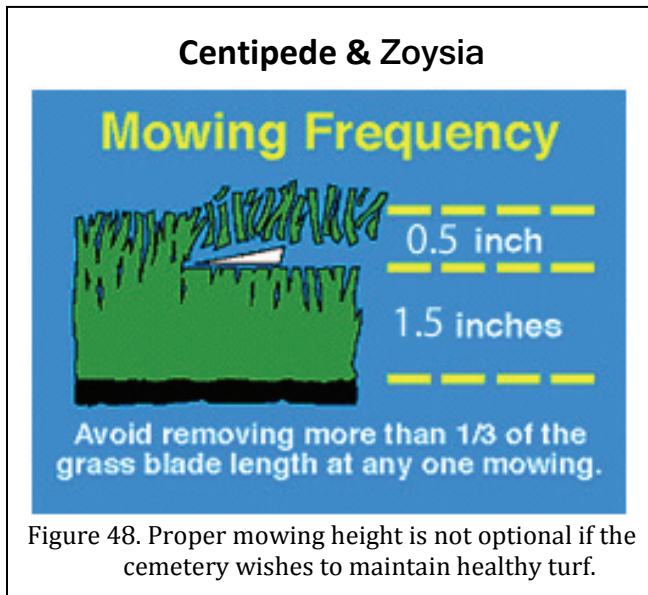


Figure 48. Proper mowing height is not optional if the cemetery wishes to maintain healthy turf.

In general, centipede should be mowed to a height of 1½-inches. Since the rule is that only one-third of a grass plant should be removed in one mowing, this means that if you intend to properly mow centipede turf at a height of 1½-inches, you can allow it to grow to a height of no more than about 2-inches. If you allow the grass to get taller than 3 inches you’ll mow down into the stems that have grown tall. This will produce poor looking turf, stress the grass, and may cause disease.

In addition, if the grass is allowed to become too high, the removal of grass adjacent to monuments becomes more difficult with longer and thicker grass blades – and this in turn will lead to more damage to the stones.

For those areas with Zoysia, the proper mowing height is between 1 and 1½-inches. This means that both dominant grass types are on the same mowing schedule to maintain a height of 1½-

inches.

There are some exceptions to these rules. For example, it is good practice to increase the mowing height for grass growing in the shade. This allows for more leaf area to intercept as much available light as possible. In addition, leaf blades in shaded areas will be longer and narrower and a lower cutting height will cause an excessive reduction in leaf length.

It is also appropriate to raise the height of the cut during stress periods, such as summer heat. Research reveals that grasses maintained at higher mowing heights have deeper root systems and improved drought tolerance. In addition, raising the mowing height of warm-season grasses as fall approaches will help the grass better over-winter.

We identified several areas where scalping of the grass has occurred.

Scalping causes severe visual damage. More importantly, scalping shocks the grass plants and growth slows or stops, limiting the vigor of the turf. A scalped lawn may dry out quickly from drought, or may develop unusual weed and disease problems.

Figure 49 reveals damage done to both marble and granite markers throughout the cemetery. This damage is the result of several factors, including (1) using mowers that are too large for navigation among the stone, (2) carelessness or inattention, (3) laziness by trying to minimize trimming time by getting as close to the stones as possible, and (4) working too fast.

Workers must be trained in the appropriate use of both mowers (and trimmers, to be discussed in a following section). Most manufacturers have training videos and there are a variety of training videos on-line. A good general article is provided at <http://igin.com/article-2001-how-to-train-your-mowing-crew.html>. They must also be appropriately supervised *on-the-ground*, not from the cab of a pickup truck.





Figure 49. Mowing concerns. Upper left shows a chip likely removed by impact from a mower. Upper right shows a chip removed by mowing (top arrow) and numerous nylon trimmer abrasions (lower arrow). Middle left shows a stone hit with such impact that it has been broken. Middle right shows scalped grass on a slope. Lower left shows scalped grass in a “zero-turn” circle caused by a large deck mower. Lower right shows multiple heights of grass caused by poor mowing techniques.





Figure 50. Mower problems. Upper left shows a scalped tree root. The remaining photographs show examples of grass not blown off stones.

There are several additional steps that can be taken to minimize this problem. We recommend that the body of each mower be painted a different color. This will transfer when stones are hit and it will be possible to determine who caused the damage. A second step that can be taken is to install a closed-cell foam pad, attached to the sides and front edges. This bumper will help to minimize accidental damage and its damage will also provide evidence of impacts.

All grass clippings must be blown off monuments after mowing. Figure 50 clearly reveals this is not being done at present, leaving a mess to greet family members when they visit a loved one's grave. Cleaning the monuments afterwards demonstrates pride in work, attention to detail, and respect for the monuments and families.

This grass is also found on the turf and it disfigures the turf and will promote disease in the grass underneath. Its presence indicates that either mulching blades are not being used or that the grass was allowed to grow so high it was impossible for the blades to adequately mulch the cuttings.

All mowers should be fitted – if they are not already – with mulching blades. This will to some degree reduce the piles of clippings. It will also help fertilize the turf.

We also found that in some areas the grass was poorly mowed, leaving broad areas unmowed or untrimmed. This is another inspection issue. The supervisor in charge should not allow this to happen and should take immediate corrective action.

Throughout the cemetery we found grass blades that are being torn, not cut. This means that the city is not appropriately sharpening blades – a practice that should be done weekly, if not more often. Dull blades rip and pull the grass blades, leaving ragged tears that both weaken the plant and promote fungal growth and other grass diseases



Figure 51. Example of torn grass, indicating that mower blades are not being routinely sharpened.

Finally, we observed evidence that ledgers in the cemetery are being driven over by mowers. Most of the cemetery is not a lawn park and its monuments are not meant to be driven over. This is hazardous since not all of these ledgers are well supported, and it is disrespectful to the plot owners.

In addition to mowing, nylon trimmers are used around monuments, coping, fencing, and plantings. This is an acceptable practice, but it is critical that a very light weight line be used – along with worker attention – to minimize damage to soft stone such as marble.

It is not clear what trimmer line weight is being used, but we believe it is somewhere between 0.105 and 0.130-inch – among the heaviest lines made. Lines this thick can cause

extensive, and unnecessary, damage to stones. We recommend a line diameter no greater than 0.065-inch – half the diameter of what currently is being used.

The examples of trimmer line damage are not the worst we have seen, but they do provide evidence that the workers are not adequately trained and they are not adequately attentive. Otherwise there would be no reason to see such repetitive strikes (Figure 52).

Throughout the cemetery we observed either bare spots and areas of heavily compacted clay. Some are the result of excessive shade (Figure 35) and in those areas we recommend mulching to a depth no greater than 4-inches. In other areas, the problem is one of erosion. This issue, along with drainage, will be discussed in a following section.

Finally, some areas simply require turf renovation as discussed below.

## Fertilization and Weed Control

We understand that the cemetery is not using any pre- or post-emergent herbicides on the turfgrass. Good lawn management, which includes proper fertilization, mowing and watering, will produce a healthy dense turf that is difficult for weeds to invade. The Resthaven turf, however, has received poor treatment and many areas exhibit dense weeds. Weed treatments coupled with better turf management practices can make a significant difference in the overall appearance of the grass.

### Centipede

Centipede is often referred to as "lazy man's grass" due to its infrequent mowing and fertilization requirements. This makes it an excellent





Figure 52. Examples of trimmer damage to two ledgers showing the trimmer line scratching the surfaces. These suggest the trimmer was held on the stone to produce the repetitive marks.





Figure 53. Examples of erosion and bare soil in the cemetery. Upper photos show area of significant sheet erosion on slopes. Lower left photo shows early stage erosion. Lower right photo shows bare soil that can be renovated.

choice for cemeteries with minimal maintenance capabilities. Nevertheless, it still requires some care and attention. For example, centipede prefers some acidity (pH less than 6.5). It is intolerant of compaction, low potassium, excessive thatch, drought, or heavy shade. The shade issue is best dealt with by mulching under dense shade trees and not attempting to grow grass. Otherwise, we have previously recommended soil modifications.

The current soils are slightly acidic for other plants and trees, so the goal is to raise the soil pH to a level that will encourage the health of other plants, while maintaining the acidity for centipede. Thus, a once-time liming may be sufficient. In one year, additional soil tests should be conducted to determine if a fertilization program will be necessary.

We anticipate it will and centipede can be fertilized in June, July, and August. Centipede should not have nitrogen applied. Chelated iron can be sprayed to improve the turf color.

We observed strong stands of broadleaf weeds. Treatment for this problem should occur from late March through June, but can be repeated in October. Centipede is sensitive to certain herbicides such as 2,4-D and MSMA, so it is critical to follow label directions and use caution. Manor or Blade (metsulfuron) are good broadleaf herbicides that will not damage centipede when used as directed. These are not, however, typically available without a pesticide license and their use will require the city to ensure that at least one employee has a Georgia private pesticide license.





Figure 54. Hose bibbs at Resthaven Cemetery. Above is inoperable, below has been recently repaired and is operable.

SedgeHammer (halosulfuron) may be used for sedge control; Vantage (sethoxydim) is safe for postemergence weedy grass control.

## Irrigation

Resthaven does not have an irrigation system and, in general, we do not recommend them – they use very large quantities of water, their placement can interfere with markers and graves, and their operation can cause erosion to stones.

Resthaven does have water lines in the cemetery, although these are in varying states of

repair. Some we tested were serviceable and exhibited excellent water pressure. We are told that other water lines are broken and have been disconnected. A number of the bibbs are inoperable as their handles have been removed to prevent water from being turned on and left on.

The availability of water is critical for cemetery operations. It is necessary to water areas of renovation, planted trees, and reseeded graves.

We recommend the use of Woodward Tamper Resistant Freezeless Yard Hydrants, which would provide back flow prevention, frost proofing to a depth of 2-3 feet, and can be locked to prevent inappropriate use. Signage could be installed instructing visitors who to contact for water use.

To prevent water bibbs from being damaged by drivers, we recommend that each be protected by safety yellow bollards. Another obvious improvement would be to move them further away from the road edge, making it less likely that they will be struck by accident.

## Renovation

We recommend that the cemetery implement a renovation program in order to establish a good stand of a single grass type. This work can be accomplished section by section, gradually implementing the efforts throughout the cemetery.

A warm season grass, such as centipede, is probably a good choice, as long as its use is coupled with mulching under trees and shady areas where almost no grass will grow. This publication (<http://caes2.caes.uga.edu/commodities/turfgrasses/georgiaturf/Turfgras/Assets/L313%20Centipede.pdf>) provides information on renovation of existing turfgrass areas.



Bare areas can be replanted in late May using sod or, less desirable, plugs on 6-inch centers. Centipede can be seeded at ½ pound per 1,000 square feet if no preemergence herbicide has been applied within two months of planting.

## Core Aeration

There are many compacted areas of the cemetery that would be significantly improved with core aeration. As in the case of mowing, bigger is not necessarily better. Relatively small hand operated equipment will be needed to prevent damage to monuments. The equipment should use hollow tines or spoons so that soil cores 2 to 3 inches deep and ½ to ¾ inch in diameter will be removed. Aeration is best accomplished during periods of active plant growth and when the soil is moist enough to allow deep penetration.

We do not recommend this as a routine activity, but it will benefit the vegetation every 3 to 5 years.

## Pest Control Practices

An issue of considerable concern is the presence of fire ants. One survey done in 1998 concluded that 33,000 people in the state of South Carolina sought medical attention as a result of fire ant stings. Of those 15% had severe localized allergic reactions and 2% had severe systemic reactions resulting in anaphylactic shock. Thus, fire ants are not simply an aesthetic nuisance, but they can pose a significant threat to the health of cemetery visitors.

Our work in the cemetery found fire ant mounds with alarming regularity. It is clear that no effort is being made to control the problem and this poses a significant liability to the Trustees.

An exceptional resources is the document, *Managing Imported Fire Ants in Urban Areas* ([https://secure.caes.uga.edu/extension/publications/files/pdf/B%201191\\_5.PDF](https://secure.caes.uga.edu/extension/publications/files/pdf/B%201191_5.PDF)).

While individual mounds can be treated, this approach is best used in small areas. At

Resthaven Cemetery a far better approach is to once or twice a year, typically in April or May and again in September or October, broadcast a hydramethylnon bait such as Amdro at the rate of 1 to 2 pounds per acre. These applications will provide about 90% suppression rates, with maximum control about 2 to 4 weeks after application.

After 10-14 days the Amdro should be used as an individual mound treatment on any mounds that continue to be a problem or that remain in high traffic areas.

This treatment can be applied over the entire plotted cemetery at a cost of only \$336 per treatment or about \$24/acre.

## Landscape Debris

During this assessment we found that debris being bagged or stacked was at left at the side of the road for pickup. This pickup did occur in a timely fashion. However, we also observed stacks that were brown and had clearly been in the cemetery for weeks or months.

Items must be removed in a timely manner. It is poor workmanship – and disrespectful to the families – to leave debris for more than one or two days.

We recommend that the debris be mulched on-site, using a mulcher/shredder capable of handling debris up to 4-inches. The mulched material can be used for mulch on bare ground under trees and in the wooded areas of the cemetery (discussed below).

## Other Landscape Issues

### Wooded Areas

The African American section in the cemetery is primarily wooded, as the land use history suggests it has been historically. There are, however, intermingled areas of light grass and some areas of bare ground.

Although we do not recommend any significant modification of the wooded vegetation, we do believe that the area requires more consistent cleaning of limbs, debris, and understory vegetation. Weed trimmers can be used on vegetation, but it remains essential that pine cones, limbs, and other debris be consistently

debris collection can be used as mulch.

## Leaves

Many cemeteries deal with leaves by using power equipment to create rows that are then either mechanically bagged or, just as often, mulched using mowers with micro mulch blades. The latter approach not only eliminates the work of gathering and removing leaves, but it also adds nutrients back into the soil.

For example, a Lexington, Kentucky cemetery deals with 130 acres of leaves with a crew of seven employees using blowers to blow all the leaves to the driveways. Next, a crew of three picks up the leaves using a large vacuum, which shreds and shoots them into a covered dump wagon. The shredded leaves can then be composted.

The process at Spring Grove Cemetery and Arboretum in Cincinnati, Ohio is even simpler. There, on 430 acres, they blow the leaves away from markers and flower beds, then mulch them with riding mowers. The mulch is sufficiently fine that there is no need to gather any of the debris – everything is simply mulched back into the soil.

While we are told that the mowers at Resthaven Cemetery have mulching blades, we did not verify this and the efforts we saw did not suggest a particularly effective program. Mulching blades are specially designed blades that pulverize clippings. For example, some blades have jagged teeth instead of a traditional-looking cutting edge. Others have multiple cutting edges. Many mulching mowers employ kickers or tails that force



Figure 55. Fire ant problems in the cemetery. Upper photo also shows another monument covered with mown grass.

collected and removed.

The bare ground areas should be mulched with leaves, or the chipped materials from other





Figure 56. African American section showing light grass, woods, leaves, and bare ground.



blades upward for repeated chopping. Mulched leaves contain less nutritional value than green clippings, so the main value is in reducing the need to dispose of huge volumes of leaves in the fall and the addition of organic matter to the clay soil.

We strongly recommend that the Cemetery look into alternative means of handling leaves that would be more cost effective and benefit the cemetery.

### Graveled Plots

A few lot owners have chosen to use gravel, retained by coping, rather than allow the plots to be grassed. Often lot owners do this thinking that it will reduce maintenance. Unfortunately, as shown by Figure 57, this is never the case. In fact, these gravelled lots almost always present a variety of long-term maintenance problems and the city should discourage the practice whenever possible.

Too often the lots, once laid, receive no additional maintenance by the families. As a result, the gravel thins through time, ultraviolet light breaks down the underlying weed block, exposing it and allowing further deterioration. In addition, weeds will often begin to grow through the weed block and gravel. The typical solution to this, rather than laborious hand weeding, is to apply herbicides. Since there is rarely an effort made to prevent future weeds, chemical control becomes a routine practice – causing long-term damage to the memorials. In addition, the weeds killed by the herbicide create a disheveled appearance that detracts from the overall cemetery aesthetics.

Where families have chosen this practice and are unwilling to allow grass, they should be informed that it is their responsibility to replace weed block and periodically infill plots with additional gravel in order to keep them maintained. With the realization of that gravel is not a “silver bullet,” but will require long-term maintenance,



Figure 57. Problems with gravelled plots. The upper photo shows exposed landscape fabric. Even fire ants penetrate the block. The lower photo shows grass growing on a gravelled plot.

families may be willing to allow plots to be converted to grass which is more historically appropriate and dramatically softens the cemetery landscape.

### Sinking and Collapsing Graves

Although the city indicates that it infills sinking graves, this assessment identified an unfortunate number of sinking or collapsing graves (Figure 58). Some of these problems can be resolved by ensuring better compaction during the backfilling process, occasional infilling of





Figure 58. Examples of sinking graves in Resthaven Cemetery.

depressions, and resodding the gravesite. These are simple, routine maintenance practices and all graves should be examined on a monthly basis to determine those that require attention. It is only when the problem is ignored that it escalates to a more serious situation.

If Resthaven Cemetery does not currently require all burials to be placed in either concrete or fiberglass vaults, it should. This step is standard in the cemetery industry and would dramatically reduce long-term maintenance needs at the

cemetery. Failing to make this standard practice will simply heap more maintenance activities on an already overtaxed staff.

## The Erosion Problem

Erosion at Resthaven is a relatively minor issue at this point, although the problem could exacerbate without attention. Examples of the problem are shown in Figure 53 and the worst occur on steeply sloping soils. We are not referring to generalized erosion resulting from collapsing walls – this problem can be resolved by the repair of the various retaining walls.

We believe the problem is in a sufficiently early stage that it can be handled by using reed-trench terracing. This consists of a series of wooden barriers, or checkboards, that are staked out along the contours, with a trench dug behind them (upslope). This trench is then filled with reed grass (*Phragmites communis*) and then covered with good topsoil. The series of terraces tends to arrest downward movement of soil and also provides areas for vegetation to become established. The reeds

serve important functions in this process — preventing the soil from drifting under the checkboards, reducing gullying, serving as an underground reservoir of water, and providing nutrients. Plantings on these terraces tend to establish very deep root systems.

If the issue is not tackled at this early stage, erosion will continue and there will be insufficient room for terracing. At that point the only alternative will be the construction of complex, and expensive, retaining walls.

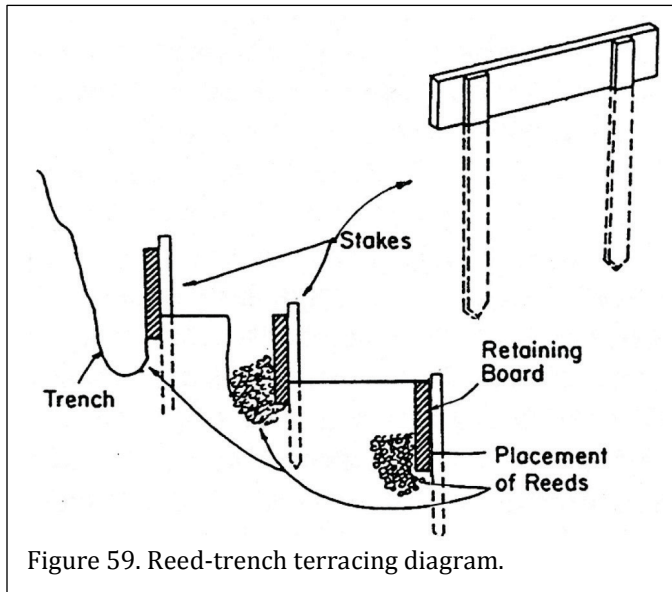


Figure 59. Reed-trench terracing diagram.

## Recommendations

- We recommend the creation of a Cemetery Landscape Manager position. A detailed job description is provided for the position.
- We recommend that the Cemetery employ nine full-time landscape technicians, three as crew leaders and six as technicians. Detailed job descriptions are provided in our report.
- Landscape technician activities require more oversight than is currently provided. Crew leaders should be held accountable for performance with careful oversight of the Cemetery Landscape Manager.
- The city should make weekly or minimally monthly independent evaluations of the cemetery landscape. We have provided a form that may assist.
- The city should require a monthly report from the Cemetery Landscape Manager. We have provided a simple report format that may assist.
- The Cemetery Landscape Manager must exhibit interest in continuing education. We recommend membership in the International Society of Arboriculture (ISA), as well as landcare organizations such as the National Association of Landscape Professionals or the Georgia Green Industry Association.
- The city should provide educational opportunities to its employees to become certified in landscape areas and also insist on continuing education as a condition of continuing employment.
- All employees must undergo rigorous OSHA health and safety training. This is a fundamental requirement of the employer's obligation to provide a safe work environment. The Cemetery Landscape Manager should receive the OSHA 40-hour construction training.
- The city must provide safety equipment such as eye protection, hearing protection, and gloves. Employees must be required to provide steel toed boots, although the city could consider reimbursing a percentage of the purchase after a set period of employment.
- Soil tests reveal that many plant nutrients are being affected by the low soil pH and we recommend that the cemetery grounds be limed with dolomitic lime, broadcast prior to a rainfall.
- Additional soil tests should be conducted in 2018, after liming, to determine if additional treatments or fertilization are needed.
- Trees to be planted on Cemetery grounds must be carefully identified to be historically appropriate and to avoid significant issues such as surface roots, excessive litter, or weak structure. A list of



potential plantings is provided.

- Every tree removed should be replaced by a new tree. It is also appropriate to plant replacement trees in anticipation of their need.
- All replacement trees or new plantings should be at least 1-inch caliper and meet the minimum requirements of the American Nursery and Landscape Association's American Standard for Nursery Stock (ANSI Z60.1-2004). All nursery stock should be carefully inspected prior to acceptance and planting.
- All new plantings should have water bags and rigid tree guards installed.
- Older, mature trees in the cemetery should have turf removed from under their drip lines and 3-inches of mulch installed.
- All trees must be inspected by an ISA Certified Arborist on a yearly basis and after any significant wind storm.
- All Cemetery trees must be pruned to remove dead wood at no greater than five year intervals. Many trees also require pruning for either thinning or cleaning. Pruning should preserve the natural character of the tree. All pruning must meet the ANSI A300 (Part 1) - 2017 standards.
- All pruning within the Cemetery grounds should be performed by an ISA Certified Arborist, preferably one who is also an ISA Certified Tree Worker/Climber Specialist. We have provide a list of ISA Certified Arborists for the city to use.
- All ivy growing on trees in the Cemetery must be removed.
- Stumps, wherever possible, should be cut

to ground level. In most circumstances, stump grinding is to be avoided.

- Plantings, whether voluntary or intentional, that interfere with stones or fences must be evaluated on a case-by-case basis to determine appropriate remedies.
- When shrubs require replacement, they should be replaced in kind. All plantings should meet the minimum requirements of the American Nursery and Landscape Association's American Standard for Nursery Stock (ANSI Z60.1-2004). All nursery stock should be carefully inspected prior to acceptance and planting.
- All shrubs must be pruned by hand. Shearing must not be allowed.
- Boxwoods, in particular, throughout the cemetery require annual thinning. Some are in such poor condition that they require renewal pruning.
- All landscape technicians must be trained on appropriate pruning techniques for the common shrubs in the cemetery.
- The use of large deck mowers in Resthaven Cemetery is problematical and in the old sections only 21-inch walk behind mowers should be used.
- Many stones in the cemetery are being needlessly damaged by the use of mowers that are too large, and staff that is poorly trained and inattentive. These problems are exacerbated by a lack of adequate supervision.
- All mowers must have closed cell foam bumpers installed. These must be replaced as needed. Operators with excessive wear on the bumpers should be given remedial training and instruction.

- No mowers are to be ridden or pushed over stones, especially ledgers, coping, or walls.
- Mowing must be conducted with sufficient frequency to maintain turf at a height of 1½-inches. This typically requires mowing at two-week intervals during the growing season, not every six weeks as is the current practice.
- Scalping of the grass must be prevented by more careful operation, especially of larger mowers.
- Sunken graves must be infilled on an annual basis.
- The line weight used on the trimmers is too heavy. All line must be replaced by a line no greater than 0.065-inch.
- No adequate training in the use of mowers or trimmers is currently provided. Workers require training in the use of this equipment, as well as safe work practices.
- Grass clippings must be blown off all monuments after every mowing or trimming. The Crew Leaders and Cemetery Landscape Manager must conduct inspections to make certain this is being done.
- All mowers should have mulching blades installed. All blades must be sharpened weekly.
- The centipede turf exhibits extensive weed invasion. The cemetery should institute a weed control program, using pre- and post-emergent herbicides.
- The cemetery should replace all hose bibbs with Woodward Tamper Resistant Freezeless Yard Hydrants protected by bollards.
- Lawn renovation should be undertaken in areas of bare soil.
- Core aeration should be conducted in selected areas of the cemetery, focusing on compacted areas, bare soil areas, and areas requiring the addition of organic matter. This should be following by reseeding.
- The Cemetery exhibits a severe infestation of fire ants. We recommend a two-step program consisting of broadcast Amdro bait, followed in about 10-14 days by mound treatments where necessary. This treatment should be conducted once or twice per year.
- Landscape debris must be collected and removed one or two days after it is generated.
- Leaf management in the Cemetery must be improved. The city should determine if they are using a recycler cutting system to chop grass clippings into fine mulch particles and return them to the ground.
- The city should prohibit the creation of graveled plots and an effort should be made to convert currently graveled plots to grass.
- Erosion should be controlled on slopes by using a reed-trench terracing system. In other areas, it should be controlled by using mulch (under dense trees), or renovating the existing turf.

# Other Maintenance Issues

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This section briefly explores other cemetery maintenance concerns exclusive of the landscape. We will briefly discuss signage issues, trash, flowers and grave decorations, policies dealing with orphan stones and replacement stones, drain cleaning, grave preparation and closure issues, and monument setting.

## Signage

This issue of signage was briefly discussed in the “Administrative Issues” section in the context of current rules and recommended changes. Here these issues will be dealt with in more detail.

At the present time Resthaven Cemetery does not have effective signage. Although the name of the cemetery is located at each entrance, the south markers are small and all of them, being granite, tend to blend into the background.

From a cemetery preservation perspective signage is of four basic types: identification, regulatory, informational, and interpretative. They are generally recommended in this same priority.

Identification signage might include the name of the cemetery and might also include the cemetery’s date of founding and historic significance (i.e., listed on the National Register).

Regulatory signage specifies laws, regulations, or expected standards of behavior.

The last two types of signage are informational (for example, directional signs) and interpretative (information on historic people buried in the cemetery). While these are excellent and improve the visitor experience, none are critical at this point since other issues must take

priority. Additional signage may be added in the future.

The cemetery (and the city) must strive to develop effective and well-designed signage. Signage should combine good and consistent design, and meet the needs of visitors.

Specifically, the signage should provide consistent information; should be universally accessible; viewable by several people at once; and be very durable and able to withstand abuse or constant touching. Signage minimally should be located near entrances.

## Identification Signage

The current identification sign is nondescript and fails to alert visitors to the cemetery access or encourage them to visit.

We propose a new sign in classic black with rich gold lettering using a contemporary, but easily read typeface. The new sign should be located at the road edge, pointing the way into the cemetery, beckoning visitors.

## Regulatory Signage

There is no current regulatory signage and this is an issue that should be corrected as a very high priority. Figure 60 provides an example of the new regulatory signage.

Identical signs should be located inside the four entrances, where each should be posted perpendicular to the road for ease of viewing.

## Informational Signage

Only when more critical issues have been resolved do we recommend any informational



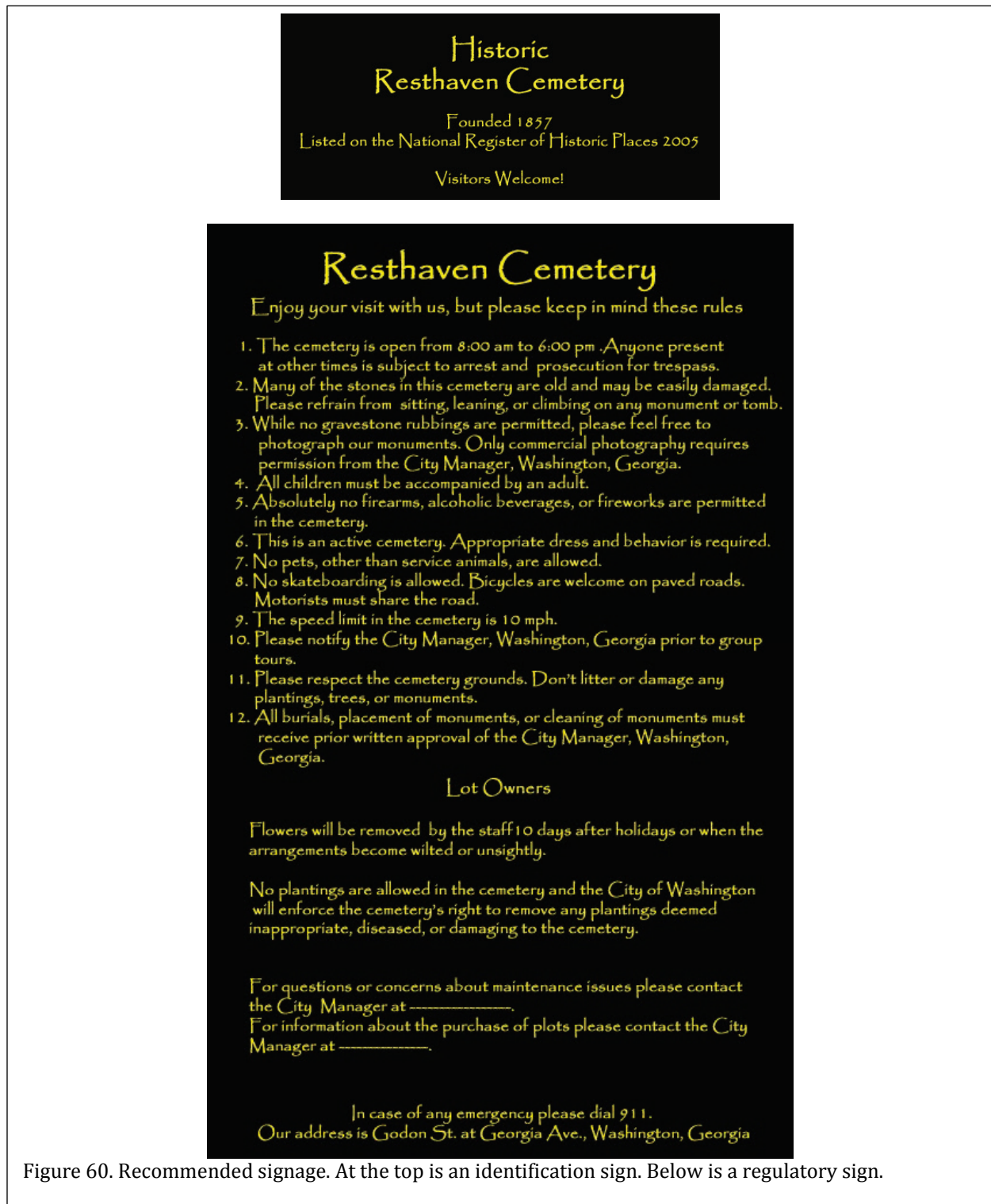


Figure 60. Recommended signage. At the top is an identification sign. Below is a regulatory sign.





Figure 61. Perpetual care signs should be removed, most especially when they clearly have no meaning as the lower photo shows.



signage. The first that may be considered is a cemetery map, which should be located at the four entrances, but further in than the regulations. Since most visitors drive, it should be mounted to be viewed from an automobile.

The second type of informational signage involves directional signs for major features, as well as current signage for all of the various cemetery sections.

The city should consider working with the Foundation to fund a Georgia Roadside Historical Marker for the cemetery, to be erected at the north (and more historic) entrance. Located outside the cemetery, it can be viewed by more people and perhaps encourage additional visitation.

## Other Signage

The most prominent signage in the cemetery are small green metal signs identifying plots as “perpetual care.” These are a left-over from when the city was selling perpetual care arrangements. All lots are today perpetual care, so these signs should be removed.

Most curious is one such sign on a plot which obviously has not received any maintenance in several years.

## Flowers and Other Grave Decorations

Resthaven Cemetery has no flower regulations. While Figure 60 provides our simple recommendation, this issue deserves additional discussion. Many of the graves throughout the cemetery, especially in the newer sections, have a wide variety of primarily plastic or silk floral arrangements.

Many of these are long-past their prime. This detracts from the dignity and beauty of the cemetery. Plastic flowers, if accidentally mowed, also create significant debris that will not decompose.

We recommend that the City adopt a flower policy that will minimize maintenance problems.

We believe that all flowers or arrangements should be removed by the cemetery staff 10 days after holidays *or* when the arrangements become unsightly. This will allow staff to remove faded flowers, Christmas decorations after the holidays, and so forth.

This is an extremely liberal policy, since some cemeteries limit the use of plastic flowers to only those months when fresh flowers are not routinely available. Fresh flowers are preferred since they mulch readily and do not cause litter if mowed over.

Grave decorations are not as common at Resthaven as they are at many cemeteries, but they are found occasionally throughout the property. Many cemeteries are beginning to struggle with the increasing tendency for the public to load graves with personal items. This problem is not unique to the United States, but has also been documented in Great Britain, where solar-powered lights, statues and windmills have appeared.

Some cemeteries have established rules based entirely on appearances. At times these are intentionally vague, for instance referring to “adornments considered offensive or otherwise inconsistent with the dignity of the cemetery.” In other cases a fairly detailed list of objectionable items has been devised: “Toys, stuffed or otherwise manufactured or sculptured animals, statues or statuettes, personal items and/or other unsightly objects.”

Although aesthetics may reasonably be considered to suffer, most cemeteries attempt to control the proliferation on the grounds of the potential hazard to workers – a legitimate concern considering the use of mowers and trimmers on a routine basis.

Many cemeteries enact provisions that allow staff to remove such objects (“temporary



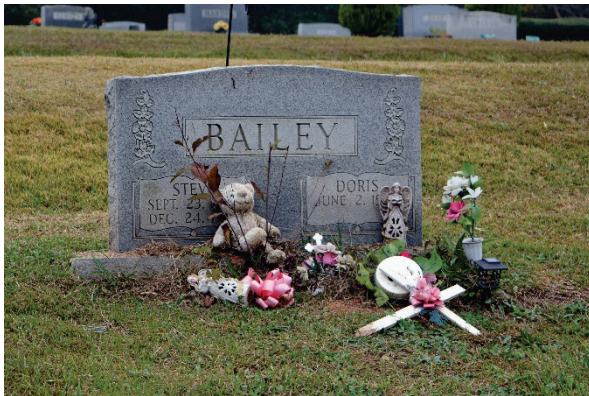


Figure 62. Faded flowers and grave clutter.

objects”) when they become withered, unsightly, or an obstruction to maintenance. Other cemeteries exclude all objects made of concrete, glass, plastic, fiberglass, metal, ceramic, and wood, again with the justification of safety. And additional cemeteries prohibit objects that tend to increase

maintenance efforts, such as bird feeders, statuary, and concrete pots.

While wishing to be sensitive to those who have lost loved ones, there must still be a middle ground that helps control the abundance of materials beginning to appear on graves in Resthaven.

## Trash

Although trash is not as significant a problem at Resthaven as it is in many city cemeteries, we did observe trash in a variety of locations. Of greater concern is that the trash, appears to have been in the cemetery for a long time and had been mowed over or was directly under pruned shrubs and in neither case collected.

While it is certainly true that the cemetery is inadequately staffed, there is no excuse for ignoring trash when it is immediately underfoot. This suggests a lack of supervision.

There are no trash containers at the cemetery and given the limited staff, we can’t in good conscience recommend them at this point. Instead, it is critical that staff be better supervised and a greater effort made to pick up trash whenever it is observed.

## Lost and Orphan Stones

Every cemetery has stones that are no longer associated with their graves. Good management requires that these stones be documented, collected and an effort made to return them to their proper locations. Long-term storage or simply ignoring them is inappropriate.

Stones should never be allowed to be removed from their original location without full documentation – where was the stone found, why is it being removed, where is it being stored, what should be done to reset the stone, what action is being taken to resolve the issue. Staff must understand that once a stone is separated from the grave, the potential that the grave will become lost – regardless of the quality of the cemetery records





Figure 63. Trash in the cemetery. The upper photo shows recent beer cans, although they are damaged by at least one mowing. The lower photo shows a long abandoned, faded beer can beneath a boxwood pruned only days before the assessment.

– dramatically increases. Thus, every effort should be made to ensure that stones remain on their grave.

A form that can be used to document fragments or orphans is provided as Figure 65.

Cemeteries should also develop a clear policy on replacement stones. Every effort should be made to ensure that historic stones are repaired, not replaced. Where replacement is essential, the

new stone should be consistent with the dominant style in that section. For example, where marble dominates, the replacement stone should be marble.

Where a new stone is desired to improve legibility, it is good practice to maintain the historic stone and inscribe an exact transcription on a granite stone to be laid flat in front of the old stone. This retains the historic fabric and ensures that the three-dimensional appearance of the plot is not altered, while allowing the family to ensure the grave is made legible.

## Drainage

Resthaven has two forms of drainage: above ground and below ground.

The above grade drains are ditches situated along one edge of several roads in the cemetery. Occasionally these ditches have concrete pipe under earthen entrances, which we assume was to allow access to grave sites.

These ditches are all grassed and have deposits of soil that in many cases have reduced the capacity of the pipes by around 50%. Further complicating the situation, not all of the pipes were sized similarly.

Water does run through these ditches since in several areas, at pipe outfalls, there is evidence of scouring.

Since we did not visit during a heavy rainfall, we don't know if these ditches are still serving their original function or if they require cleaning.

There is certainly nothing wrong with the ditches being vegetated. This vegetation slows down water, allowing a portion of it to infiltrate





Figure 64. Orphan and replacement stones. The photo above shows at least one granite die laying at the side of the maintenance building with several fragments of coping. The lower photo shows a replacement stone. Although of granite rather than marble, an effort was made to match the original design (on the left). It does not, however, indicate the replacement date on the reverse.





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## MONUMENT FRAGMENT AND REMOVAL RECORD

Cemetery:	Date:	Fragment ID#:
Origin, if known: Grave #:	Section #:	Lot #:
Type: <input type="checkbox"/> Headstone/primary monument	<input type="checkbox"/> Footstone	<input type="checkbox"/> Other: <input type="checkbox"/> Unknown
Stone: <input type="checkbox"/> marble	<input type="checkbox"/> slate	<input type="checkbox"/> granite <input type="checkbox"/> sandstone <input type="checkbox"/> concrete <input type="checkbox"/> other:
Dimensions (inches):	x	Thickness:
Visible Inscription:		
Visible Design:		
Location of Find:		
How Found:		
Storage Location & How Stored/Wrapped:		
Comments:		
Surveyor:		
Photograph and/or Sketch:		

Figure 65. Suggested monument fragment and removal record to track orphan stones.



Figure 66. Open drains at Resthaven Cemetery. Upper left shows the west side of Cemetery Street looking south. Note that pipes have been filled in to different depths. Upper right shows different sizes pipes being used on the road at the Pope section. Lower left shows erosion at the outfall of the pipe. Lower right shows a road ditch without culverts.

into the soil and serving to catch some of the debris and pollutants. As plants take up water, they help to reduce the volume of storm runoff. Moreover, ditch erosion increases after ditch maintenance in which vegetation is removed. Therefore, if an assessment is made that the ditches must be cleaned to restore their original depth and shape, it becomes critical that erosion control measures be employed.

We recommend inspection during heavy rainfall to determine if the ditches are performing acceptably.

There is at least one and possibly two below grade drainage pipes. We are told that at

least one drainage pipe is no longer working correctly. Apparently, the Georgia Department of Transportation channels the road water from GA 44 (Whitehall Street) under the railroad and to a drain at the north entrance. From this drain the pipe apparently runs southeast to a lowland area at the power line corridor.

This drainage is thought to no longer being working, resulting in surface drainage across sections of the cemetery – although again, we did not visit the cemetery during a heavy rainfall. Nor do we have any specific information regarding the course of the water or the resulting damage.

The drain at the north cemetery entrance





Figure 67. Underground drainage. On the left is the nearly overgrown and infilled drain from the railroad tracks. In the background is the covered drain with fox damage. It is unknown where this drain is run. On the right is a culvert on the east side of the road separating the 1902 addition and the 1954 addition. Its origin is unknown, but the outflow is significantly blocked.

has been compromised by fox holes that may be causing damage. The drain itself appears to have sunk and become unstable.

The exit pipe at the southeast end of the run shows erosion and scouring at the culvert sides.

What we believe is a second underground pipe is located on the east side of the road separating the 1902 and 1954 sections. It is partially blocked and there is no indication of its origin.

Like many cemeteries with no detailed plans, there is considerable uncertainty regarding

both above and below grade drains. Where below grade drains originate and the direction of their flow is largely unknown.

Moreover, although we are told that drains are on a monthly inspection plan, it seems that deferred maintenance has prevented inspections, and no cleaning has been conducted recently. Catch basin sumps need periodic cleaning. Sediment and heavy debris can collect in the sump over long periods of time. The sediment can accumulate to the level where it restricts the outlet flow. These sumps should be cleaned at least once a year.

There is no evidence that any of the below



grade drains have ever been cleaned of debris or obstructions. The reports of flooding suggests they are essentially nonfunctioning.

Like other critical infrastructure, after years of being ignored, the drainage system in Resthaven Cemetery is in need of repair.

If the below grade drains are found to be clogged, they will require snaking or the use of a high pressure water jetting device (with pressures of up to 4,000 psi and the capability to extend up to 500 feet) by a company that specializes in this work. Clean out snakes must be used with extreme care to prevent breakage of the drain pipes. It may also be necessary to use an inspection camera to obtain a better idea of the degree and nature of the clogs.

As this is being done it will be worthwhile to also roughly plot the location of the buried drains. The drain cleaners should snake the drainpipes until the snake won't go any farther. Using an underground pipe or metal detector it should be possible to trace the location of the snake – and the drain. Alternatively, the pipes should be detectable with ground penetrating radar (GPR).

The location of the drains and the associated runs should be included on the cemetery map for future reference.

## Grave Opening and Closing Issues

We are told that city staff, “ensure[s] grave openings are handled correctly.” When pressed, however, this seems to incorporate little more than marking out the plot location, after which each funeral home hires its own grave digger. We assume the funeral home and associated grave digger are also responsible for backfilling and compacting the grave, as well as disposal of spoil as this is the standard practice.

We identified no spoil piles in the cemetery and this is good. We encourage the continued removal to some other location.

Most of the graves appear to be well compacted and we observed only a few grave depressions in the cemetery and these are likely from collapsing graves.

We have previously recommended that the city require all burials to be placed within vaults – a recommendation that we reiterate as it will significantly reduce maintenance and liability. One cemetarian has noted that,

The installation of a modern concrete crypt [vault] means a firm lasting base for the grave. It will remain this way and reduces the need for constant filling and repair work on the ground level of the grave. Mowing and trimming care to keep the gravesite in its original beauty is much easier and the costs can be kept at a minimum (Anonymous 1963:21).

We are not certain, however, if graves have sod replaced. It is unacceptable to leave bare soil on graves as this is not only poor customer service, but it serves to diminish the appearance of the cemetery and reduce interest in purchasing lots. Klupar notes that,

the supervisor can make a lasting impression on this point [of customer service] by asking all personnel to perform every interment with the same consideration they would give to the burial of a member of their own family (Klupar 1962:189).

These are significant issues that city staff must ensure as they oversee grave openings and closings.

## Setting Monuments

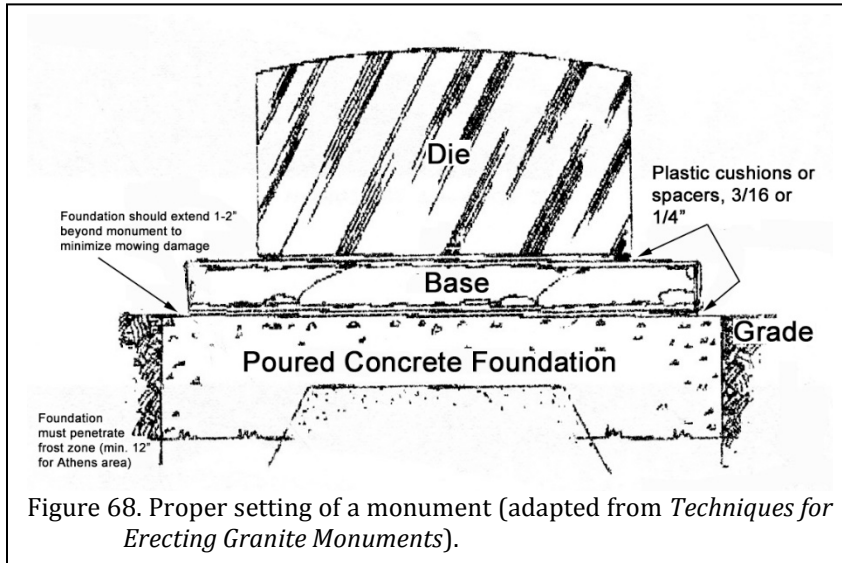
Although the city indicates that it has regulations and monuments are inspected, there appear to be no written rules and inspections are perfunctory. This lack of oversight is likely the

cause for monument failures in the cemetery.

The Elberton Granite Association in its publication, *Techniques for Erecting Granite Monuments*, has specific instructions for the setting of monuments and the city should require all monuments in the cemetery to follow these very specific requirements to ensure long-term stability and reduce maintenance costs. These provisions will also help protect the family's costly investment.

The standards document should incorporate the following critical elements:

1. The foundation shall be centered in relationship to the grave or lot. The



gravesite lot shall be physically probed, marked, and laid out in order to make this determination.

2. Where a single marker or headstone is to be used to commemorate two or more gravesites, the foundation shall be centered between the gravesites to the extent possible.
3. All foundations shall be laid out so that the markers or headstones, including the visual presentation of inscriptions, will be

in alignment with other foundations or markers or headstones in the same lot row.

4. The measurements of the foundation excavation shall be four-inches (4") wider than the width of the marker or headstone and four-inches (4") longer than the length of the marker or headstone in order that a foundation border of two-inches (2") will extend beyond the entire length and width of the marker or headstone after it has been installed.

5. Excavation for the foundations of markers or headstones that lie flat with the ground surface shall be dug at a depth of at least twelve-inches (12") to penetrate below the frost line. The burden of proof for compliance with different standards shall be on the party responsible for each installation and must be approved by the city in writing on a case-by-case basis.

6. Preparation of the foundation for any marker or headstone to be placed on any gravesite in Resthaven Cemetery and the subsequent installation shall be scheduled by email, writing, or fax with the proper city representative.

7. Scheduling of foundation preparation and installation for any marker or headstone shall be based on weather and ground conditions, other burial services in Resthaven Cemetery and the availability of personnel to inspect the foundation preparation and installation of a marker or headstone.

8. The completion of a foundation shall be two-inches (2") above ground level and not detract from the appearance of gravesites in Resthaven Cemetery.

Removal of excavated dirt and clean up of the gravesite shall be performed promptly by the party preparing the foundation and installing the marker or headstone.

9. No marker may be set into wet concrete. All foundations must be cured at least two-weeks (14-days) prior to setting of monuments.
10. Markers will be required to have the section and site engraved on the headstone for easy site placement, and identification. The cost of the inscription will be borne by the proprietor - owner of the headstone.

## Plot Curbs or Coping

When we inquired about the condition, repair, and resetting of plot curbs or coping in the cemetery, we were informed that the city does not reset or repair. We were told that if moved or displaced by the grave digger, they must be replaced.

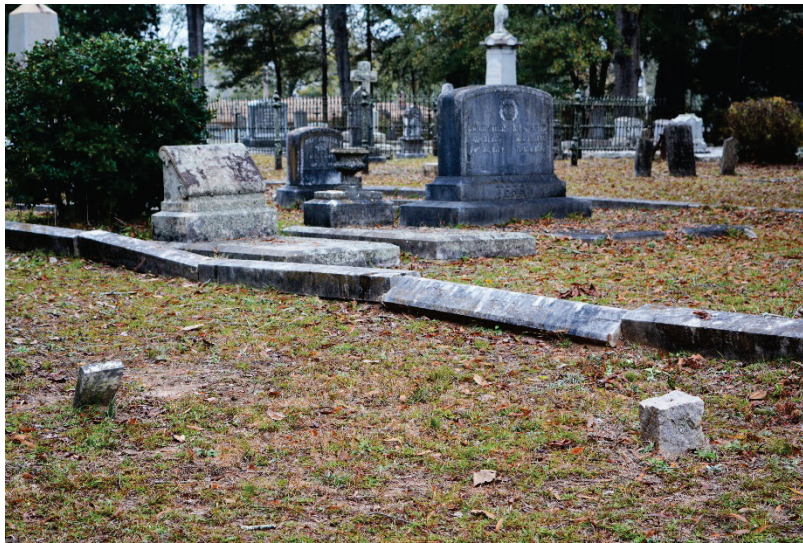


Figure 69. Example of displaced plot curbs or coping.

Many sections of the cemetery exhibit plot curbs of marble and granite. Many of these curbs

are in poor condition and require routine maintenance. Marble and granite curbs are sinking or have been displaced.

Infilling of depressed areas and resetting of curbs should be a routine maintenance operation. The use of a curb setting tool would be of assistance, but is not essential and the job can be done by hand.

## Recommendations

- A sign theme should be developed for the Cemetery using consistent colors and type faces.
- The current entrance signs should be supplemented with new signs located outside the gates, allowing visitors to more easily identify the cemetery.
- There is no regulation sign currently and this must be rectified as quickly as possible. This signage should be located immediately within the gates perpendicular to the road.
- The city and the foundation should invest in Georgia Roadside Historical Markers for the cemetery.
- Themed section and street signage should be installed.
- The “perpetual care” signs should all be removed.
- The city should establish a policy that all flowers or arrangements will be removed by the Cemetery staff 10 days after holidays or when the arrangements become unsightly.
- The city should establish a policy that



allows staff to remove all “temporary objects” on graves or in plots when they become withered, unsightly, or an obstruction to maintenance.

- Staff must be responsible for collecting and disposing of trash prior to mowing.
- “Orphan” stones should be documented using a form and collected for short-term safe keeping until their appropriate location is identified through research. In so far as possible, stones should not be allowed to become disassociated with their graves as this effectively loses the grave location.
- The city should help preserve the historic context of the Cemetery by ensuring stones are repaired rather than being replaced. Where a new stone is desired to improve legibility, it is good practice to maintain the historic stone and inscribe an exact transcription on a granite stone to be laid flat in front of the old stone.
- Drainage sumps or collection basins should be cleaned of trash, leaves, and silt yearly. At grade ditches should be carefully mowed on a regular basis.
- Below grade drains have never been cleaned and many are badly clogged with sediment. These require cleaning using a snake or a high pressure water jetting device. During this operation the drain line locations should be documented using a metal detector or ground penetrating radar so the lines can be added to the cemetery map.
- The condition and operation of all cemetery drains should be consistently inspected during rainfall periods.
- Grave spoil should continue to be removed from the cemetery.
- The city should require the use of vaults for all future burials at Resthaven, if it is not already.
- The specifications for setting of monuments are failing to follow the recommendations of the leading industry organization. We have proposed new specifications that will ensure monuments are correctly set and the cemetery will not be burdened with future sinking and tilting problems.
- There is inadequate supervision by cemetery staff of grave opening and closing, and monument setting. Staff must do a better job ensuring that the interests of the cemetery and the families that are placing their trust in Resthaven Cemetery are protected.
- Plot curbs or coping throughout the cemetery are in deteriorating condition, posing a hazard to the public and detracting from the beauty of the cemetery. The repair of these curbs must be viewed as routine maintenance and must be integrated into the maintenance plan.

# Conservation Issues

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In the introduction to this plan we briefly discussed a variety of preservation issues, tackling the question of why it is important to preserve sites like Resthaven Cemetery, as well as how preservation and restoration differ, and introducing the reader to the Secretary of Interior's Standards for Preservation. Readers may want to refer back to those discussions since they form a foundation for our discussion of the conservation needs at Resthaven.

## Standards for Conservation Work

The City is the steward of this Cemetery, holding what belonged to past generations in trust for future generations. As such, the city bears a great responsibility for ensuring that no harm comes to the property during its watch.

One way to ensure the long-term preservation of the cemetery is to ensure that all work meets or exceeds the Secretary of the Interior's Standards for Preservation, discussed on pages 7-9 of this study.

Another critical requirement is that the city ensure that any work performed in the cemetery is conducted by a trained conservator who subscribes to the Guidelines for Practice and Code of Ethics of the American Institute for Conservation of Historic and Artistic Works (AIC) ([http://www.nps.gov/training/tel/Guides/HPS1022\\_AIC\\_Code\\_of\\_Ethics.pdf](http://www.nps.gov/training/tel/Guides/HPS1022_AIC_Code_of_Ethics.pdf)).

These standards cover such issues as:

- Respect the original fabric and retain as much as possible – don't replace it needlessly.

- Ensure that the treatment chosen is suitable for the object, recognizing that at times no treatment is the best option.
- Choose the gentlest and least invasive methods possible.
- Is the treatment reversible? Is retreatment possible?
- Don't use a chemical without understanding its effect on the object and future treatments.
- Don't falsify the object by using designs or materials that imply the artifact is older than it is.
- Replication and repairs should be identified as modern so that future researchers are not misled.
- Use methods and materials that do not impede future investigation.
- Document all conservation activities and ensure that documentation is available.
- Use preventative methods whenever possible – be proactive, not reactive.

The AIC Code and Guidelines also require a professional conservator provide clients with a written, detailed treatment proposal prior to undertaking any repairs or treatment; once repairs or treatments are completed, the conservator must provide the client with a written, detailed treatment report that specifies precisely what was done and the materials used. The conservator must ensure the suitability of materials and methods – judging and evaluating the multitude of possible treatment options to arrive at the best recommendation for a particular object.

These Guidelines of Practice and Code of Ethics place a much higher standard on AIC

conservators than individuals or commercial monument companies that offer “restoration services.” This higher standard, however, helps ensure that Resthaven Cemetery receives the very best possible care and that the treatments conducted are appropriate and safe.

## The Responsibility of the City

The questionnaire held the position that the city assumes no responsibility for monuments, walls, or fences, in each case shifting that responsibility to plot owners.

This represents faulty reasoning and, we fear, is motivated more by finances than any legalistic concern. It is a mindset that must change if this cemetery is to survive the 21<sup>st</sup> century and be passed to future generations.

It is reasonable to expect, even demand, that extant families with still active plots in the newest sections of the cemetery take responsibility for the maintenance of their monuments, coping, and other lot features. Of course, this presupposes that actions or inactions by the city have not contributed to the failures and deteriorations of the plots. For example, if the problems were caused by a falling tree that was clearly unhealthy or even dead, then the city is clearly responsible. If the problem is caused by the city and their staff failing to adequately specify and inspect monument foundations, then the city is clearly responsible. If the problem is caused by the city and their staff failing to operate equipment safely and properly, causing damage to monuments, then the city is clearly responsible.

This should provide the city with ample reasons to improve maintenance, provide better oversight of staff, and establish clear maintenance and training policies.

There are, however, many plots where families can no longer be located or may not even exist. What then? Is it reasonable to ignore these plots and monuments, allowing them to

deteriorate, causing hazards and liability for the cemetery (and by extension, the city)? Is it reasonable to allow portions of the cemetery to appear abandoned and uncared for? Will such a policy encourage future families to purchase lots, fearing that their loved ones will receive this same sort of treatment in the future?

Ignoring deterioration, whether it represents failing walls, corroding fences, or broken monuments, affects the entire cemetery, making it a less attractive place and reducing the potential for sales. Moreover, it ignores that the city is the steward of the cemetery, holding and maintaining it for future generations.

Simply put, after years of ignoring problems and deferring preservation activities, the city must take responsibility for the maintenance of the entire cemetery.

## Past Conservation Efforts

The only obvious effort we observed during this assessment was the cleaning of some monuments – apparently without the knowledge or approval of the city. All of the obviously cleaned monuments exhibit damage from improper cleaning chemicals and this practice must cease. We provide additional comments in a following section on proper cleaning.

## General Types of Stone Damage

Although a stone-by-stone assessment was not included in this assessment, it is possible to provide some general observations concerning the types of problems faced by Resthaven Cemetery. These discussions provide general observations that will help place the recommendations in a broader context.

## Sinking and Tilted Monuments

A significant problem in Resthaven Cemetery is sinking and tilting of monuments. This problem is easily mistaken for vandalism or even



the result of water movement. However, we believe the most likely culprit is the inadequacy of monument foundations.

As stones sink they become more likely to topple. As they topple not only is the appearance of the Cemetery dramatically altered, but the monuments can present a significant liability to the city. In addition, as monuments topple they are very likely to hit coping, walls, or other stones, causing damage to themselves or the objects they hit. This dramatically increases repair costs.

In general, these stones are being displaced because there was no adequate foundation and as the graves collapsed, the monuments also began to sink or tilt. The problem could have been prevented by requiring carefully laid foundations.

In fact, meetings of the Association of American Cemetery Superintendents going back to the early 20<sup>th</sup> century included numerous discussions of why deep foundations were essential. One member expressed the sentiment,

The principal thing in all foundations is not width or length, but depth. One of the greatest curses of the Memorial industry today is the cut-price man who sells Memorials, and Markers especially, and then puts under a foundation from 6" to 12" deep. Memorials placed on such a foundation will never stand. Therefore, our suggestion would be have all monument foundations at least 5'0" deep, and no less; length and width is merely a matter of opinion (John Merkle and Sons 1917:473).

Other authorities demanded foundations be placed to the depth of the grave itself, thereby ensuring that monuments would not tip, tilt, or sink into collapsing graves.

Today, it rare to find a foundation even 6 to 12-inches in depth and many lack any foundation whatsoever. A 5-foot foundation is probably not necessary unless a very heavy and tall monument is erected; the granite industry has made recommendations, previously discussed, that are affordable and that will provide good long-term stability.

The solution involves the resetting of these monuments, prior to their further collapse.

### **Simple Resetting**

A large number of stones in the cemetery require resetting. Many of these are flush-to-ground lawn markers or tablets that have sunk and are now either tilted or being covered with soil and grass. Resetting is generally simple and a suitable task for volunteers.

The stone should be excavated, being careful to avoid shovel damage. There are some monuments that have been set in concrete and the removal of this material may require a conservator to ensure that the stone itself isn't damaged. Otherwise, the hole can be deepened and filled with decomposed granite as bedding. The lawn marker should be reset with the top about 1 inch above the ground level – tall enough to prevent being covered by soil and grass, but not so tall that it will be damaged by mowing. Tablets should be set with about 25 to 33% of the stone below grade. Additional pea gravel should be packed in around the stone as it is being leveled. The upper inch of backfill should be soil to allow for revegetation.

It is critical that Portland cement never be used to reset stones since it removes their ability to shift if they are accidentally hit by mowing or other landscape activities (using Portland cement and allowing it to cure prior to resetting is acceptable).

### **Resetting Die on Base Stones**

The cemetery has a number of granite die on base stones that were originally set using setting compound. This is a commercial product typically



Figure 70. Examples of sinking, tilted, and fallen monuments. Upper left shows an obelisk sinking into a grave and beginning to slide off its base. Upper right shows on die on base sinking and leaning. It is retained only by a pin. Middle left, monuments sinking. Middle right, a monument is beginning to slip off its base, indicating that there is no retaining pin. Lower left, monument has fallen from it sinking base. Lower right, monument has fallen, showing a pin.



consisting of calcium carbonate, talc, and occasionally calcium silicate in linseed oil or a similar material. It is designed to be applied under a granite monument to help seal it to base and prevent water intrusion. Because it contains oil it may leave a halo on marble and should only be used for setting granite monuments. Setting compound is not an adhesive and will eventually dry out. It also does not prevent a monument from being tipped over, so care must be taken when the monument being set is top heavy, very tall, or is in a setting where vandalism is likely. In such cases it is good practice to set the monument not only with setting compound, but also with one or more fiberglass pins.

Marble stones were typically set with a mortar rather than setting compound, although this too is not an adhesive and will often fail.

In order to reset a die on base that is loose or shifted, it is first necessary to remove the die and set it aside. The base then must be checked to determine if it is both stable and level. In many cases it will be necessary to remove the base, and establish a new foundation with decomposed granite.

All old mortar or setting compound must be removed from the base and the die. This can usually be accomplished using plastic spatulas or a small chisel. Care must be taken not to disfigure the stone during this cleaning process.

If pins are to be installed holes must be drilled and cleaned in both the die and base. Either fiberglass or stainless steel pins should be inserted that are slightly shorter and smaller than the holes. While they may be set using epoxy or lime mortar, it is often acceptable to leave them loose.

The purpose of these pins is to help secure the base and die, making it more difficult to accidentally (or intentionally) tip a monument over.

If setting compound is being used on granite markers, it should be rolled between your hands to create "strings" 1-2 feet in length and

about ½ inch in diameter. These strings should be set about ½ inch inside the edge of where the die will make contact with the base. Poly cushion spaces should be used at the four corners to prevent the setting compound from being completely expelled when the die is reset.

If the monument is marble, then a lime based mortar (never Portland cement mortar) should be used rather than setting compound.

The stone is then reset and appropriately centered – there are special monument setting devices to assist in this. Setting compound that is pushed out can be cut off using a plastic spatula for later reuse. Excess mortar can be manually removed and then the monument can be cleaned off using a barely damp sponge and fresh water. If there are any gaps, additional setting compound or mortar will need to be used to fill these gaps.

## **Cradle Graves**

Cradle graves, also called bedstead monuments, are combinations of headstones and footstones connected by side rails, giving the appearance of a bed. Historically these were often planted in flowers or groundcover.

Resetting cradle graves is more difficult and time consuming than other monument types, but involves essentially the same techniques. The individual parts were typically connected by ferrous or brass pins. These fail as the grave shaft collapses and individual components begin sinking or tilting.

The first step is removal of the individual components and infilling the grave with decomposed granite in order to establish a good foundation for rebuilding the monument. If all of the parts are intact, they are simply reset as described in the above sections.

If the side rails are broken, which is unfortunately common once they are exposed, then the monument requires conservation treatment.





Figure 71. Other damage. Upper left shows a collapsed cradle grave. Upper right shows a monument with multiple breaks. Middle left shows a broken footstone. Middle right shows a broken ledger on a brick box tomb. Lower left shows an iron jacked base. Lower right shows two severely damaged brick box tombs, with ledgers in danger of being broken.

## Loose Monuments

There are a number of loose monuments. These are typically die on base markers where the monument company failed to insert a pin to stabilize the two parts (the die and the base). These monuments remain upright through gravity and consequently pose a significant threat to the public, other monuments, and themselves.

For such monuments we recommend drilling and pinning as described earlier to improve stability and reduce the cemetery's liability.

## Large Monuments

There are, unfortunately, some large monuments that are severely tilted or fallen. Depending on their size, these will require the use of a tripod, small equipment, or even a crane to facilitate resetting. These should be reset by a conservator trained in rigging and using the equipment needed for large, heavy monuments.

## Broken Stones

There are examples of broken stones. Leaving these stones laying on the ground or leaning against other stones subjects them to additional damage, increasing the eventual cost of appropriate repair. Stones on the ground are walked on, may have mowers run over them, and if they are marble, are subject to greater acid rain damage. It is always critical to erect fallen stones and this simple resetting is an activity that volunteers could undertake.

This cemetery is quite fortunate that there have been relatively few past repair efforts using inappropriate repair techniques or materials. It is always far easier to conduct an appropriate conservation treatment than to "undo" inappropriate actions, such as the use of "simple epoxy" repairs – where stone fragments are joined using a continuous bead of epoxy. Experience indicates that for a long-lasting repair, particularly in structural applications, use of pins is necessary. Moreover, most adhesives are far stronger than the

stone itself, meaning that failure of the repair is likely to cause additional damage to the stone.

Appropriate conservation treatment requires a blind pin repair. This drilling and pinning is a process that involves carefully aligning the fragments, drilling the stones, and setting fiberglass, or occasionally threaded 316 stainless steel rod, using a structural epoxy in the drill holes.

Diameters and lengths of pins vary with the individual application, depending on the nature of the break, the thickness of the stone, its condition, and its expected post-repair treatment. The choice of epoxy depends on the required strength, among other factors.

Since there is also usually some loss of fabric along the break, this treatment will also involve infilling areas of loss with a compatible mortar. This consists of a natural cementitious composite stone material resembling the original as closely as possible in texture, color, porosity, and strength. This type of repair may be used to fill gaps or losses in marble.

Under no circumstances should latex or acrylic modified materials be used in composite stone repair. These additives may help the workability of the product, but they have the potential to cause long-term problems. Such products are not appropriately matched in terms of strength or vapor permeability.

More suitable materials include Jahn (distributed by Cathedral Stone) or the lime-based mortars of U.S. Heritage. These closely resemble the natural strength of the original stone, contain no synthetic polymers, exhibit good adhesion, and can be color matched if necessary.

Drilling stones is a complex treatment that should only be conducted by a trained conservator. Infill is similarly complex and the Jahn products require certification in their use through Cathedral Stone.

In at least one case, there is a broken



ledger on a box tomb. Prior to repair of the ledger, the box tomb requires brick work to ensure a firm, level base. In another case, two box tombs are severely deteriorating with multiple bricks being displaced. In these cases the ledgers must be removed and the box tombs rebuilt, before the ledgers are reinstalled.

## Ferrous Pins

Many die on base stones were observed that had been set using ferrous pins to join the die and base. These stones should be given a high treatment priority since, left untreated, the corrosion of the ferrous pin will cause significant

volume than the original pin and as the corrosion products expand, they crack the stone. Some of these stones already exhibit corrosion staining and cracking.

It is necessary to use diamond core drills to remove the corroded ferrous pins and replace them with either fiberglass or, rarely, stainless steel. Afterwards it is necessary to fill the voids with a natural cementitious composite stone material such as that previously described for infill repairs.

In some cases the iron pins have already

caused the stone to spall or break. Treatment is similar, except that the replacement pins must often be longer and inserted into stone that is still capable of bearing the weight of the monument. Such repairs also necessitate major reproduction of lost stone and therefore are more time consuming and expensive.

## Cleaning

Many of the stones exhibit relatively dense deposits of lichen (a symbiotic association typically between fungus and green algae) or algae alone. While sometimes viewed as only an aesthetic issue, there are many stones in Resthaven Cemetery where the biologicals have become so thick that the carving on the stone is today illegible.

These biologicals may damage stone in a variety of additional ways. As lichen and other

Table 5.  
Comparison of Different Cleaning Techniques

Cleaning Technique	Potential Harm to Stone	Health/Safety Issues
Sand Blasting	Erodes stone; highly abrasive; will destroy detail and lettering over time.	Exposure to marble dust is a source of the fatal lung disease silicosis.
Pressure Washers	High pressure abrades stone. This can be exacerbated by inexperienced users. Pressures should not exceed 90 psi.	None, unless chemicals are added or high temperature water is used.
Acid Cleaning	Creates an unnatural surface on the stone; deposits iron compounds that will stain the stone; deposits soluble salts that damage the stone.	Acids are highly corrosive, requiring personal protective equipment under mandatory OSHA laws; may kill grass and surrounding vegetation.
Sodium Hypochlorite & Calcium Hypochlorite (household and swimming pool bleach)	Will form soluble salts, which will reappear as whitish efflorescence; can cause yellowing; some salts are acidic.	Respiratory irritant; can cause eye injury; strong oxidizer; can decompose to hazardous gasses.
Hydrogen Peroxide	Often causes distinctive reddish discolorations; will etch polished marble and limestone.	Severe skin and eye irritant.
Ammonium Hydroxide	Repeated use may lead to discoloration through precipitation of hydroxides.	Respiratory, skin, and eye irritant.
D/2 Architectural Antimicrobial	No known adverse effects, has been in use for nearly 15 years.	No special precautions required for use, handling, or storage.

spalling, cracking, and breakage of the stones – a process known as “iron jacking.” The corrosion products of these ferrous pins have a greater





Table 72. Cleaning issues. Upper left shows lichen growing on iron fence. Upper right shows thick lichen on a granite die on base. Lower two photos show yellow staining from improperly cleaning marble with bleach.

plants grow, they can exert pressure on the mineral grains, weakening the intergranular structure. Some organisms produce acid compounds that dissolve the calcium carbonate. Some can even etch granite. Many of the lichen and algae allow water to migrate into cracks and crevices of the stone, leading to freeze-thaw damage.

While cleaning is often recommended, inappropriate cleaning can result in a significant amount of damage. We observed at least three situations at Resthaven where inappropriate bleach cleaning had been used. This suggests that families are taking very poor advice from local individuals with no real knowledge or understanding of treatment issues. The use of bleach results in the yellowing of marble – a situation seen on several of the monuments.

We have a simple handout that the city could begin offering to lot holders that provide good instructions on proper cleaning.

Table 5 lists problems with a variety of “common” stone cleaning processes widely used by commercial firms and the public. This information is important to the city and should also be made available to any families that may inquire about cleaning their specific monuments.

A suitable biocide for cleaning stones is D/2 Biological Solution (<http://d2bio.com/>) available from a variety of conservation suppliers. Stones should always be prewetted prior to application of D/2 and after dwelling for a few minutes followed by gentle scrubbing, should be flushed from the stone.

## Walls

Compared to many cemeteries, Resthaven has relatively few walls and these include both granite rock and brick. Most of these walls serve to allow sloped lots to be leveled and therefore are primarily retaining walls. A few, however, are merely brick surrounds of family lots that serve only a decorative function.

Walls identified as “satisfactory condition” are stable, but may require maintenance, such as pointing. There are a few that would be identified as being in “poor condition” in that they are unstable, tilted, spalling, potentially missing elements, but still standing. They require immediate intervention before they fail. There are also a few walls that would likely be classified as “in failure,” meaning that they are actively collapsing or have collapsed.

Virtually none of the walls appeared to be engineered. That is, none exhibit evidence of weep holes, French drains, or soil anchors. It was not possible to identify footings with any accuracy, although many of the walls appear to have little or no footers. Thus, while failure is often precipitated by trees or ground pressure, these failures were, in essence, inevitable. As with monument foundations, had the city established clear wall construction requirements virtually all of today’s problems could have been avoided. Once again, the cemetery today is paying the price for a failure to insist on appropriate decisions in the past.

## Wall Repairs

Repairs should always begin with photographing the structure as it exists in order to completely document the original fabric and construction details. Only the unsound work should be removed, stopping as soon as sound material is encountered. It will, however, be necessary to establish appropriate foundations for many of the walls and this may necessitate considerable removal and rebuilding.

## Foundation Design

For a wall to be stable, the weight of the wall components must exceed the force of the soil behind the wall. As moisture in the soil behind the wall increases, the force attempting to push the wall forward increases. Important considerations in constructing retaining walls are foundation, backfill, block size, and anchoring system. Good design will likely require a footer, some form of geotextile, drainage, and some form of select backfill to promote drainage.

The situation at Resthaven Cemetery is made more difficult since in many cases excavation for foundations, replacement of backfill, and soil anchoring must be limited because of existing burials.

## Standards in Masonry Repair

A critical standard in pointing mortar joints is the National Park Service Preservation Brief 2, *Repointing Mortar Joints in Historic Masonry Buildings*, available online at <http://www.nps.gov/hps/tps/briefs/brief02.htm>. It is written by two of the foremost authorities in the United States.

Although *Preservation Brief 2* was intended to direct repointing work, it also provides a useful basis for any efforts that involve rebuilding walls.

This document makes several critical points:

- the new mortars must match the historic mortar in color, texture and tooling;
- color of new mortar is largely controlled by the sand aggregate, thus matching aggregate is critical;
- the new mortar must have greater vapor permeability and be softer (measured in compressive strength) than the masonry units;
- the new mortar must be as vapor permeable and as soft or softer (measured

in compressive strength) than the historic mortar; and

- mortar is designed to be – and must be – sacrificial.

If these five rules are followed, the mortar will comply with NPS standards, be appropriate for repair work on historic structures, and most importantly “will do no harm.”

ASTM International, formerly known as the American Society for Testing and Materials (ASTM), is a globally recognized leader in the development and delivery of international voluntary consensus standards. The standard ASTM C1713, *Standard Specification for Mortars for the Repair of Historic Masonry*, covers repair mortars used for both non-structural purposes such as repointing, as well as “for structural purposes such as, but not restricted to, reconstruction or repair of mortar joints that contribute to the structural integrity of the masonry.”

The document requires that aggregates conform to ASTM C144, additions are strictly limited, pigments must conform to ASTM C979 (pigments may not exceed 10% by weight of the binder, except for carbon black, which is limited to 2%), and binders are primarily non-hydraulic lime (e.g., lime putty, ASTM C1489) or hydraulic limes (ASTM C144).

The document also provides guidance on volume proportions, noting that they are typically combined with ratios ranging from 1 part total binder materials to 2 to 3½ parts aggregate, although a few may fall outside this range.

Other Standards or recommendations for work such as this include the Secretary of the Interior’s Standards for Preservation, as well as the AIC Code of Ethics and Guidelines for Practice, which have been previously discussed.

Finally, there are also widely recognized standards of performance for masonry work. Virtually all historic preservation specifications,

for example, include a provision requiring the contractor to have demonstrated proficiency in restoration by previous successful performance of specific tasks within the past 10 years. The firm itself must generally be able to show at least 5 years of experience. The goal of such standards is to ensure that those performing the work have done so in the past and are not “learning” using your materials and site.

Generally mock-ups are required. These are panels, often about 16 ft<sup>2</sup> in a location on site selected by the client. The sample panels built by the prospective mason must match the existing masonry in coursing, bond pattern, and mortar joint configuration. The test panels may involve the construction of a wall, repointing, or other tasks required by the contract. When inspected and approved by the client (or more often the architect or conservator), the panels become the standard for quality, color range, size range, texture, and inclusions. All materials and performance must conform to the approved samples, subject to normal variation.

There is often a requirement that at least one skilled journeyman mason be on-site at all times to personally direct the work of other masons employed on the job.

There are typically requirements that all materials be delivered to the job site in new, unopened containers and that they be protected from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials

Strict weather condition limitations are also enforced. No work may be performed in wet weather. No masonry work is allowed when the surface temperature of masonry is below 40° F or air temperature is predicted to be below 40° F within 48 hours. Masonry must not be allowed to freeze until the mortar is thoroughly dry and hardening almost complete. No mortar work is typically permitted when the temperature rises above 100°F. The mason is also responsible to provide sun and wind protection, such as burlap



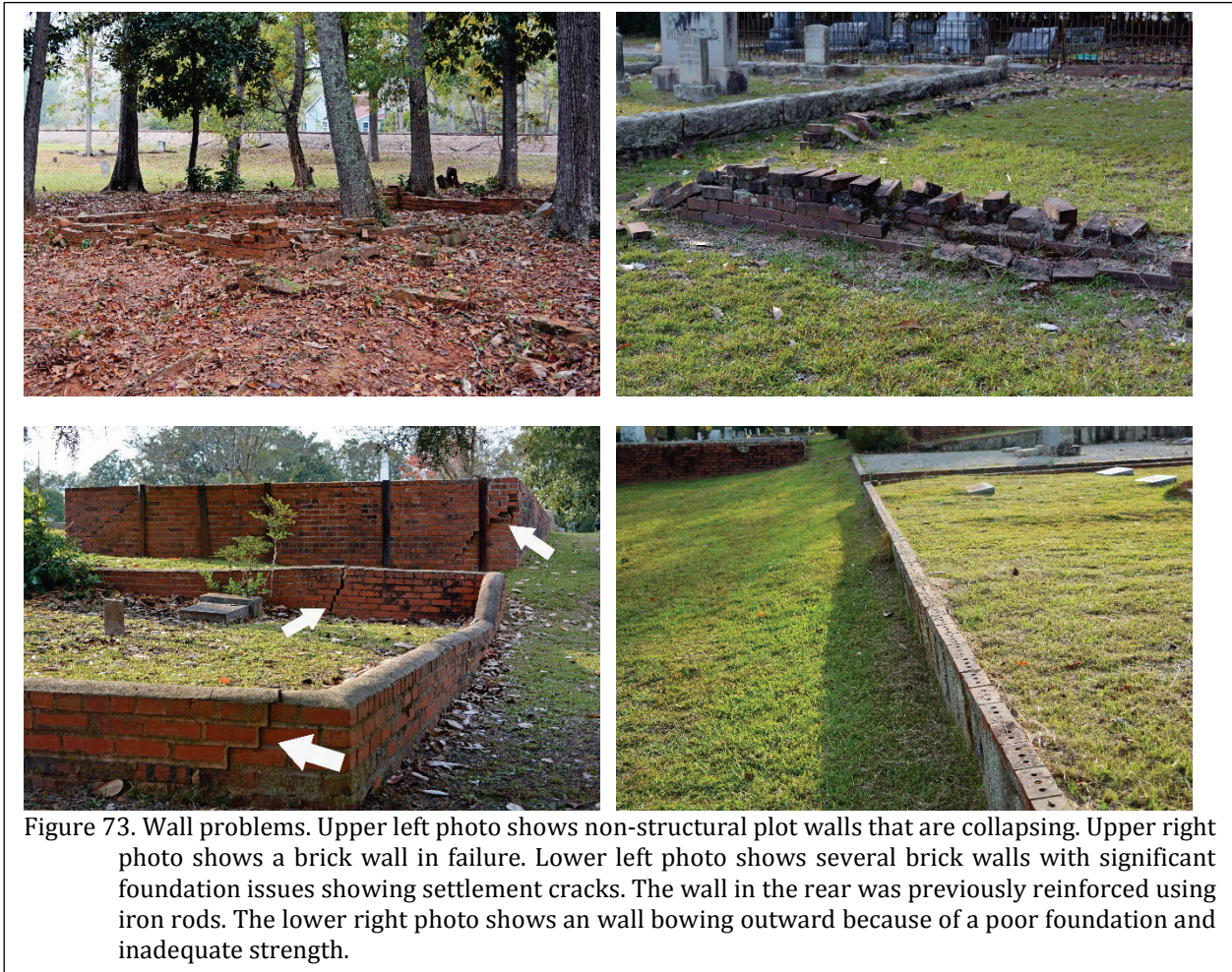


Figure 73. Wall problems. Upper left photo shows non-structural plot walls that are collapsing. Upper right photo shows a brick wall in failure. Lower left photo shows several brick walls with significant foundation issues showing settlement cracks. The wall in the rear was previously reinforced using iron rods. The lower right photo shows an wall bowing outward because of a poor foundation and inadequate strength.

sheeting to prevent “flash curing” of the mortar. The mason must also be able to periodically moisten the mortar after it has been installed

In the mixing of mortar, good practice demands that ingredients (e.g., binder and aggregate) be measured by cubic volume using a uniform measure. Shovel measuring should never be permitted and is poor practice. It also matters whether constituents are measured dry or moist. For example, there is a significant increase in bulk volume of dry sand when water is added. If sand is measured dry, more sand is put into the mix than if the same volume of damp sand were used. Oversanding can result in gritty, hard-working, and when dried, weak mortars.

There are also widely recognized performance standards. Bricks should be laid with completely filled bed and head joints, ends should be buttered with sufficient mortar to fill head joints. Masonry must be laid plumb and true, following the coursing, patterns, and joint size of adjacent (or original) construction. Minor dabs of adherent mortar must be struck off the brick surfaces. Excess mortar must be brushed from surfaces frequently during the work. Existing surfaces must be protected from mortar dripping and splashing. Minor mortar marks must be removed by misting with water and brushing with a small, stiff bristle brush. After the mortar has set, the loose mortar and soil should be removed with clear, clean water. Acid cleaning should be strictly prohibited.

Much cleaning can be avoided by minimizing water use in mortar and pointing mortars, in particular, must be applied very dry (the consistency of damp brown sugar) to permit good compaction and prevent smearing.

Walls or repointing should be misted to ensure the slow curing of the mortar. This generally involves misting at least three times daily (more depending on weather conditions), usually for several weeks after the work is completed.

### **Mortar and Jointing**

Stone, especially granite and fieldstone, tends to be quite hard and generally withstands the use of hard mortars. Historic bricks are often far softer than modern examples. The use of a modern hard cement mortar will cause extensive damage to this soft brick as one expands more rapidly than the other. Mortar should always be designed to deteriorate more quickly than the brick (it should be sacrificial), since the mortar can be readily replaced through pointing.

Often masons use a Type S masonry cement field mixed with sand. Masonry cement is a prepackaged combination of Portland cement and plasticizers. The mix of these bagged mortar mixes is typically proprietary and is not required by ASTM standards to include hydrated lime (ground limestone is accepted). Great compressive strength is neither needed nor appropriate. The 28 day compressive strength of these mortars is 1,800 psi – far too hard for the historic bricks. Consequently, masonry cements are not recommended for use on preservation projects.

An alternative is the use of natural hydraulic lime (NHL) 3.5 which is moderately hydraulic, or NHL 5 which is eminently hydraulic. While not used historically, a benefit of these mortars is that they provide a quicker initial set while maintaining many of the other benefits of lime. The 28-day compressive strength of NHL 3.5 is about 200 psi, increasing to about 800 psi in a year. The 28-day compressive strength of NHL 5 is about 290 psi, increasing to 1,225 psi in a year.

Thus, NHL 3.5 is appropriate for the brickwork at Resthaven Cemetery, while NHL 5 is appropriate for the granite and fieldstone work (and may be appropriate if the bricks are relatively modern and hard fired).

An alternative – and we believe better choice – to field mixes are prebagged NHL mortar and sand mixes offered by a variety of companies, including Limeworks.us ([http://www.limeworks.us/ecologic more.html](http://www.limeworks.us/ecologic%20more.html)), and U.S. Heritage (<http://usheritage.com/repointing-mortars/>).

Jointing or joint tooling is done for two reasons. The one most often mentioned is aesthetic – a means of finishing the mortar to appear neat and give a good visual impression. However, an equally important reason is structural. When a brick is laid on mortar it will absorb some of the moisture from the mix, resulting in partial dehydration of the joint toward the outer face. Water is also lost through evaporation. Jointing – the process of firmly pressing a tool against the mortar – consolidates the mortar near the surface, reducing the pore volume and closing up shrinkage cracks.

It is particularly important not to tool the joints too early since this will bring too much “fat” or fines to the surface, producing a slicked surface or skim coat that inhibits appropriate curing. Tooling involves several steps. First, any gaps must be filled, although good masons leave few such gaps. First perpendicular or head joints are tooled. The bed joints are then jointed. Finally, the joints should be brushed firmly with a soft brush. The goal of this action is to remove protruding mortar deposits on head and bed joints.

Nevertheless, not all masons are equally skilled at jointing, nor are all joints equally appropriate.

Good preservation practice mandates that whatever tooling was present originally, be replicated. Where no jointing evidence remains, which is often the case on very old walls, especially walls with deteriorating mortar, there is an

appropriate option. A churn brush can be used when the mortar is thumbnail hard. The brush is pounded on the wall and its joints, resulting in several simultaneous actions. The mortar is very effectively compacted in the joints, sealing any shrinkage cracks. The bristles open pores, promoting better carbonation of lime mortars. Any small smears of mortar are knocked off bricks. In addition, the resulting joints take on a weather-worn appearance that helps the brick work blend in (remember, we do not want attention drawn to new brick work – we want it to appear as though it has been there for years).

Churn brushes can be obtained from several sources (for example, <https://www.shoplimeworks.us/store/p424/Churn-Brush>).

## Fences

### Plot Fences

Plot fences are confined to the African American and older section sections and can be characterized as being in good, fair, or poor condition. Fences in good condition are those that, minimally, are painted or have little corrosion and that are structurally stable. Fences in fair condition are structural stable, but are missing parts and not painted. Finally, those in poor condition are unstable, unpainted, and missing many parts or even entire fence sections.

For the most part, the Resthaven fences do not require restoration, rather simple preservation. Work should focus on issues such as removing fence parts from the soil; stabilizing line, corner, and gate posts; limiting water intrusion; and ensuring that the fences are painted.

All fences receiving treatment should first be examined for open joints and other areas where water can penetrate through capillary action. These areas should be carefully caulked with Sikaflex 1a, an elastomeric caulk that is often used in fence repair. Under no circumstance should a silicon caulk be used.

Where fences exhibit remaining old paint,

we do not recommend anything more than brushing of the fence to remove loose corrosion and flaking paint. The entire fence should then receive one coat of an alkyd primer, such as Rust Oleum Professional High Performance Metal Primer 7769. After this has cured it should be followed by two top coats of flat black alkyd paint, such as Rust Oleum Professional High Performance Flat Black 7776402.

Many of the fences, however, show no remaining paint. This is a perfect situation for light brushing to remove loose corrosion followed by the application of Rust-Oleum Rust Reformer®. This product has been tested by the Canadian Conservation Institute, including exposure to very harsh salt spray and was one of their top three best performers (it is, today, the only formulation still available). Rust Reformer® is a conversion process that stabilizes the corrosion products and serves as a primer. This product cures to a blue-black color.

It should be top coated with Rust-Oleum High Performance Protective Enamel® in flat white followed by a final top coat of flat black 24 hours later. This is a quality assurance process since any areas missed by the flat white will immediately be identified by the undercoat of black Rust Reformer®. Similarly any areas missed by the application of final top coat of flat black will immediately be recognized by the underlying white paint.

Paint application should be by brush, producing an initial dry coat of 1-2 mils (the wet build-up is typically twice this).

### Other Fence Issues

It is worthwhile to briefly outline a few additional issues critical in fence repair. These concerns should be kept in mind for all ironwork treatments at Resthaven.

It is critical that fence bottom rails (or other elements) not be allowed to be covered by soil. Prior to any repair or painting it is essential that the ironwork be removed from ground contact.





Figure 74. Fences. Upper left photo shows a fence that is today buried under about 10-inches of soil and must be removed to allow reinstallation. Upper right shows a fence requiring painting and resetting of the gate. Middle row shows two fences that require painting. Lower left shows a fence that requires brushing and painting, as well as damaged fittings requiring repair. Lower right photo shows loose parts that should be collected and documented for eventual repair.

This will usually require re-sculpting or contouring the ground to allow exposure and ensure that water flows away from the fence. In one case, where soil has been build up within the fence, covering about 10-inches of the fence, it will be necessary to remove the fence and re-establish it once leveling is completed.

Whenever possible, painting should be by brush. If airless sprayers must be used there will be much overspray, requiring much larger amounts of paint. In addition, all vegetation and all stones within the plot – and all immediately adjacent plots – must be fully wrapped in plastic to prevent damage from drift. The requirement for additional paint and the time required to wrap vegetation and monuments will significantly increase the cost of the work.

Welding is appropriate in some situations, but not all. Welding, if performed using continuous (not spot) welds that are ground smooth, is acceptable where little or no expansion or contraction of the iron is anticipated. Where there were originally slip joints, however, welding is inappropriate since it will create stresses that can cause additional damage. For these areas it is necessary to infill the fabric and recreate slip joints that allow movement.

Where welding is appropriate, it must be of very high quality. Appropriate welding processes may include gas tungsten arc welding (GTAW) and shielded metal arc welding (SMAW). Success in repair of cast iron has been achieved in the past using a nickel welding electrode called a NiRod Ni-99. This rod allows elasticity that eliminates the cracking in the transition zone characteristic of low carbon steel electrodes. It should be combined with peening the weld upon completion, reducing surface stress during cooling. The GTAW process uses silicon-bronze wire and stainless steel wire. These are selected for their compatibility and ductility.

As previously mentioned, we do not typically encourage restoration. It is very costly and funnels money away from preservation

activities that have a much greater impact on a much larger assemblage. Where recasting is critical, we recommend Robinson Iron in Alexander City, Alabama (<http://www.robinsoniron.com/>). Castings are typically produced in Class 30 gray iron. After casting, the individual pieces should be machined as necessary and then primed and painted.

We identified fence parts lying on the ground throughout the cemetery. All such parts should be collected and stored for possible repair, replacement, or replication. They should not be ignored and allowed to be stolen or destroyed.

Resthaven is exceedingly fortunate to have so many nearly intact and well preserved iron fences. Every effort must be made to ensure the continued preservation of these features.

It becomes critical when private individuals are maintaining fences that the city provide this guidance and encourage private individuals to perform maintenance to the same standards. This will help prevent future problems that result when individuals are not aware of good ironwork practices.

## Recommendations

- The city must require that all work performed in the cemetery on monuments, fences, or walls be conducted or overseen by a trained conservator who subscribes to the Guidelines for Practice and Code of Ethics of the American Institute for Conservation of Historic and Artistic Works (AIC).
- The city must affirm its responsibility to care for all areas of the cemetery.
- High priority treatments include the stones that require resetting for the safety of the stone and the public.
- Monuments evidencing iron jacking are nearly as critical since, left untreated,



these stones will rapidly join the ranks of those that are broken.

- The cleaning of the worst soiled stones in the cemetery using D/2 Biological Solution should be undertaken by volunteers. This will dramatically improve overall appearance and provide a very visible improvement to the cemetery landscape.
- The city must prevent future inappropriate cleaning techniques.
- The repair of broken stones is the least critical conservation concern. These stones are unlikely to deteriorate further in the course of a 5-year plan.
- The walls in failure should receive a high priority for rebuilding and it may be most cost-effective to let contracts for multiple walls at one time, with oversight by a conservator.
- Walls in poor condition should receive second priority repairs. Walls currently in satisfactory condition should be placed on a maintenance program with 10 evaluated and repaired as needed every year.
- The soil covering all fences should be cut back from contact with the iron.
- Fences currently not painted require caulking, priming with Rust Reformer, and two top coats of an alkyd flat black paint.
- Fences with failing paint require caulking, priming and a top coat of an alkyd flat black paint.
- Loose fence parts should be documented and collected for safe keeping until funds allow for repair.





# Priorities

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Resthaven Cemetery suffers many of same problems plaguing most municipal cemeteries. Municipal governments have not shown themselves to be particularly forward thinking when it comes to the cemetery business. Plots are offered far below market costs, no endowment (whatever it may be called) is established, monies collected go into general accounts, the same people and equipment used to maintain parks and soccer fields are used to maintain the cemetery, and the cemetery is always the first to have funding cut and the last to have it increased. Moreover, there is often no constituency or advocates for the cemetery.

There should be no surprise that we find – on a consistent basis – so many problems in municipal burial grounds.

Politicians often complain that money is thrown at problems in an effort to solve them. There has been a drumbeat of “do more with less.” Curiously, any thinking person realizes that this philosophy fails to address root problems. No one works for free; there are only 8 hours in a day; and the volunteer community often lacks the skills, strength, and resources to do what is critical. As a result, problems compound, or cascade, and eventually a crisis point is reached.

Resthaven Cemetery is reaching that crisis point. Trees require intensive care; lawns require better maintenance and in some areas, reseeded; fences are at the point of being lost; drainage is deteriorating; and roads are in declining condition. Simply put, the root problem is a lack of adequate finances.

In this pale of darkness, the one potential bright spot is that the City Manager, with the Washington-Wilkes Historical Foundation, is

beginning to recognize the problem. We hope that this assessment will be the first step toward making critical changes.

If the community does not falter, and accepts its responsibility for the care and maintenance of the cemetery for future generations, the long-term prognosis for the cemetery seems very good. We believe the prognosis can be made even better by examining the issues found in this assessment and taking actions where needed.

## Recommended Priorities

Our assessment questionnaire asked what the Cemetery Committee thought were the three most significant preservation concerns. They responded, to repair older monuments, prepare a landscape plan, and prepare a long-term preservation plan. This document will help achieve the third goal.

There are many monuments that require attention, but they are not the highest priority. All stones wear and erode. There is little that can be done about this natural tendency. What can be done is to ensure that only safe and appropriate cleaning is conducted; that all repairs are appropriate and conducted by a trained individual; and that efforts are taken to ensure that other aspects of care do not contribute to the deterioration of the stones. Similarly, there are likely improvements that can be made to the landscape design, but these are also not a high priority since the existing landscape cannot be adequately maintained.

We believe the larger issue involving the relatively inadequate maintenance program at the cemetery must be resolved.

We recognize that it can be difficult to maintain focus and with this in mind, Table 6 lists the recommendations offered throughout this assessment, classifying them as a *first priority*, a *second priority*, or a *third priority*.

*First priorities* are those we recommend undertaking during the coming fiscal or calendar year (2018). Some of these are organizational or administrative rules, policies, or procedures that can be quickly resolved and will help ensure future actions are guided by sound considerations. Many of these require little or no funding, but do demand a philosophical change in how the cemetery is operated. They must be enacted as a foundation upon which other changes are constructed. We strongly believe that most cemetery projects fail through inadequate or inappropriate planning – thus, we recommend in the strongest possible terms that the city (by which we mean the City Manager, the City Council, and the Foundation) engage in the necessary planning to help ensure success.

*Second priorities* are those that should be budgeted for over the next 2 to 3 years (2019-2020). They represent urgent issues that, if ignored, will result in both significant and noticeable deterioration of the cemetery as a component of the National Register property.

*Third priorities* are those that may be postponed for several additional years (2021-2022), or alternatively, may require 3 to 5 years to see fruition. Some actions are also less significant undertakings that require other stages to be in place in order to make them feasible or likely to be successful. Although they are given this lower priority they should not be dismissed as trivial or unimportant.

Within these three categories, the individual items are not ranked, as all are essentially equal in importance.

It is likely that some of these recommendations will not be achievable in the five years allotted for this plan. That does not mean that

the issues will no longer be of consequence or will not still be critical for the survival of the cemetery. What it does mean is that after 5 years we recommend sitting down and re-evaluating what has been achieved, what still needs to be done, and determine how to move forward.



Table 6.  
Prioritization of Recommendations

Priority	Action
<b>1st Priority</b>	<p>1.1 A joint meeting of the Cemetery Committee of the Washington City Council and the Washington-Wilkes Historical Foundation should be devoted to a careful review of the Secretary of Interior Standards. The caregivers should focus on a fuller understanding of how daily operations affect the long-term preservation of the cemetery, making necessary adjustments to current policies and procedures.</p> <p>1.2 The existing laws should be reviewed and significantly expanded to ensure the preservation of the cemetery. Suggested additions are provided in this report.</p> <p>1.3 The city and Foundation should begin contacting plot owners in an effort to enlist them in funding lot-specific improvements and repairs.</p> <p>1.4 The city should increase the cost of a double plot to \$1,000. But, this must be associated with significant improvements in maintenance as outlined in this assessment.</p> <p>1.5 Many of the roads require the preventative maintenance of crack sealing/filling.</p> <p>1.6 All of the road edges should be trimmed or edged on a yearly basis.</p> <p>1.7 All future modifications at Resthaven should be evaluated for their impact on universal access. Universal access should be a goal whenever possible.</p> <p>1.8 The wood structure and its concrete floor should be demolished and removed from the cemetery. The associated propane tank should also be removed.</p> <p>1.9 We provide some initial recommendations regarding the family mausoleum that should be forwarded to the family for action. They include maintenance of the fence, inspection of the vault roof, repair and maintenance of the outer iron gate, more complete closing of the inner marble door, and appropriate cleaning of the mausoleum.</p> <p>1.10 We found no evidence that vandalism is currently a significant issue at Resthaven Cemetery. The city and Foundation should, however, review options to combat vandalism and determine which could be implemented to help harden the cemetery against vandalism.</p> <p>1.11 All plot gates should have stainless steel cabling used to attach the gate to the hinge post to reduce the potential for theft.</p> <p>1.12 The cemetery should begin using a form to identify and record evidence of vandalism.</p> <p>1.13 Homelessness is not a crime; if, however, there are rule infractions (open alcohol, drunkenness, belligerent behavior, etc.), the incident should be reported to local law enforcement. Evidence of homelessness in the cemetery should be countered immediately.</p> <p>1.14 We recommend the creation of a Cemetery Landscape Manager position. A detailed job description is provided for the position.</p> <p>1.15 We recommend that the Cemetery employ nine full-time landscape technicians, three as crew leaders and six as technicians. Detailed job descriptions are provided in our report. Although this can be phased in, benefits will not accrue until there is better staffing.</p>

PRIORITIES

Table 6, cont.  
Prioritization of Recommendations, continued

Priority	Action
<b>1<sup>st</sup> Priority, continued</b>	<p>1.16 Landscape technician activities require more oversight than is currently provided. Crew leaders should be held accountable for performance with careful oversight of the Cemetery Landscape Manager.</p> <p>1.17 The city should make weekly or minimally monthly independent evaluations of the cemetery landscape. We have provided a form that may assist.</p> <p>1.18 The city should require a monthly report from the Cemetery Landscape Manager. We have provided a simple report format that may assist.</p> <p>1.19 The Cemetery Landscape Manager must exhibit interest in continuing education. We recommend membership in the International Society of Arboriculture (ISA), as well as landcare organizations such as the National Association of Landscape Professionals or the Georgia Green Industry Association.</p> <p>1.20 The city should provide educational opportunities to its employees to become certified in landscape areas and also insist on continuing education as a condition of continuing employment.</p> <p>1.21 All employees must undergo rigorous OSHA health and safety training. This is a fundamental requirement of the employer's obligation to provide a safe work environment. The Cemetery Landscape Manager should receive the OSHA 40-hour construction training.</p> <p>1.22 The city must provide safety equipment such as eye protection, hearing protection, and gloves. Employees must be required to provide steel toed boots, although the city could consider reimbursing a percentage of the purchase after a set period of employment.</p> <p>1.23 Trees to be planted on Cemetery grounds must be carefully identified to be historically appropriate and to avoid significant issues such as surface roots, excessive litter, or weak structure. A list of potential plantings is provided.</p> <p>1.24 Every tree removed should be replaced by a new tree. It is also appropriate to plant replacement trees in anticipation of their need.</p> <p>1.25 All replacement trees or new plantings should be at least 1-inch caliper and meet the minimum requirements of the American Nursery and Landscape Association's American Standard for Nursery Stock (ANSI Z60.1-2004). All nursery stock should be carefully inspected prior to acceptance and planting.</p> <p>1.26 All new plantings should have water bags and rigid tree guards installed.</p> <p>1.27 All Cemetery trees must be pruned to remove dead wood at no greater than five year intervals. Many trees also require pruning for either thinning or cleaning. Pruning should preserve the natural character of the tree. All pruning must meet the ANSI A300 (Part 1) – 2017 standards.</p> <p>1.28 All pruning within the Cemetery grounds should be performed by an ISA Certified Arborist, preferably one who is also an ISA Certified Tree Worker/Climber Specialist. We have provide a list of ISA Certified Arborists for the city to use.</p>

Table 6, cont.  
Prioritization of Recommendations, continued

Priority	Action
<b>1<sup>st</sup> Priority, continued</b>	1.29 All shrubs must be pruned by hand. Shearing must not be allowed.
	1.30 All landscape technicians must be trained on appropriate pruning techniques for the common shrubs in the cemetery.
	1.31 The use of large deck mowers in Resthaven Cemetery is problematical and in the old sections only 21-inch walk behind mowers should be used.
	1.32 Many stones in the cemetery are being needlessly damaged by the use of mowers that are too large, and staff that is poorly trained and inattentive. These problems are exacerbated by a lack of adequate supervision. All mowers must have closed cell foam bumpers installed. These must be replaced as needed. Operators with excessive wear on the bumpers should be given remedial training and instruction.
	1.33 No mowers are to be ridden or pushed over stones, especially ledgers, coping, or walls.
	1.34 Sunken graves must be infilled on an annual basis.
	1.35 The line weight used on the trimmers is too heavy. All line must be replaced by a line no greater than 0.065-inch.
	1.36 No adequate training in the use of mowers or trimmers is currently provided. Workers require training in the use of this equipment, as well as safe work practices.
	1.37 Grass clippings must be blown off all monuments after every mowing or trimming. The Crew Leaders and Cemetery Landscape Manager must conduct inspections to make certain this is being done.
	1.38 A sign theme should be developed for the Cemetery using consistent colors and type faces.
	1.39 The current entrance signs should be supplemented with new signs located outside the gates, allowing visitors to more easily identify the cemetery.
	1.40 There is no regulation sign currently and this must be rectified as quickly as possible. This signage should be located immediately within the gates perpendicular to the road.
	1.41 The "perpetual care" signs should all be removed.
	1.42 The city should establish a policy that all flowers or arrangements will be removed by the Cemetery staff 10 days after holidays or when the arrangements become unsightly.
	1.43 The city should establish a policy that allows staff to remove all "temporary objects" on graves or in plots when they become withered, unsightly, or an obstruction to maintenance.
	1.44 Staff must be responsible for collecting and disposing of trash prior to mowing.
	1.45 Grave spoil should continue to be removed from the cemetery.



PRIORITIES

Table 6, cont.  
Prioritization of Recommendations, continued

Priority	Action
<b>1<sup>st</sup> Priority, continued</b>	<p>1.46 Below grade drains have never been cleaned and many are badly clogged with sediment. These require cleaning using a snake or a high pressure water jetting device. During this operation the drain line locations should be documented using a metal detector or ground penetrating radar so the lines can be added to the cemetery map.</p> <p>1.47 The city should require the use of vaults for all future burials at Resthaven, if it is not already.</p> <p>1.48 The specifications for setting of monuments are failing to follow the recommendations of the leading industry organization. We have proposed new specifications that will ensure monuments are correctly set and the cemetery will not be burdened with future sinking and tilting problems.</p> <p>1.49 There is inadequate supervision by cemetery staff of grave opening and closing, and monument setting. Staff must do a better job ensuring that the interests of the cemetery and the families that are placing their trust in Resthaven Cemetery are protected.</p> <p>1.50 The city must require that all work performed in the cemetery on monuments, fences, or walls be conducted or overseen by a trained conservator who subscribes to the Guidelines for Practice and Code of Ethics of the American Institute for Conservation of Historic and Artistic Works (AIC).</p> <p>1.51 The city must affirm its responsibility to care for all areas of the cemetery.</p> <p>1.52 High priority treatments include the the stones that require resetting for the safety of the stone and the public.</p> <p>1.53 The city must prevent future inappropriate cleaning techniques.</p> <p>1.54 The walls in failure should receive a high priority for rebuilding and it may be most cost-effective to let contracts for multiple walls at one time, with oversight by a conservator.</p> <p>1.55 Loose fence parts should be documented and collected for safe keeping until funds allow for repair.</p>
<b>2<sup>nd</sup> Priority</b>	<p>2.1 The cemetery should prepare a disaster plan to cover events such as flooding, tornadoes, and other events.</p> <p>2.2 The city should investigate ownership to resolve any questions regarding its control of different sections.</p> <p>2.3 The city and Foundation should develop a Resthaven website. It should be maximized as a sales tool, including information on plot availability, locations, costs, etc. The website should include a listing and photographs of plots and monuments. The website should provide a meaningful history of the cemetery. The website should incorporate solicitation of funding.</p> <p>2.4 Yield signs should be installed at bifurcated intersections.</p>

Table 6, cont.  
Prioritization of Recommendations, continued

Priority	Action
<b>2<sup>nd</sup> Priority, Continued</b>	<p>2.5 Some roads in Resthaven require surface treatments, such as chip seal, in order to prevent further deterioration.</p> <p>2.6 The city should consider limiting the introduction of additional benches in the cemetery, both on plots and in common areas.</p> <p>2.7 The city should consider limiting the introduction of additional vases or urns in the cemetery.</p> <p>2.8 Soil tests reveal that many plant nutrients are being affected by the low soil pH and we recommend that the cemetery grounds be limed with dolomitic lime, broadcast prior to a rainfall.</p> <p>2.9 Additional soil tests should be conducted, after liming, to determine if additional treatments or fertilization are needed.</p> <p>2.10 Older, mature trees in the cemetery should have turf removed from under their drip lines and 3-inches of mulch installed.</p> <p>2.11 All trees must be inspected by an ISA Certified Arborist on a yearly basis and after any significant wind storm.</p> <p>2.12 All ivy growing on trees in the Cemetery must be removed.</p> <p>2.13 Stumps, wherever possible, should be cut to ground level. In most circumstances, stump grinding is to be avoided.</p> <p>2.14 Plantings, whether voluntary or intentional, that interfere with stones or fences must be evaluated on a case-by-case basis to determine appropriate remedies.</p> <p>2.15 When shrubs require replacement, they should be replaced in kind. All plantings should meet the minimum requirements of the American Nursery and Landscape Association's American Standard for Nursery Stock (ANSI Z60.1-2004). All nursery stock should be carefully inspected prior to acceptance and planting.</p> <p>2.16 Boxwoods, in particular, throughout the cemetery require annual thinning. Some are in such poor condition that they require renewal pruning.</p> <p>2.17 Mowing must be conducted with sufficient frequency to maintain turf at a height of 1½-inches. This typically requires mowing at two-week intervals during the growing season, not every six weeks as is the current practice.</p> <p>2.18 Scalping of the grass must be prevented by more careful operation, especially of larger mowers.</p> <p>2.19 All mowers should have mulching blades installed. All blades must be sharpened weekly.</p> <p>2.20 The centipede turf exhibits extensive weed invasion. The cemetery should institute a weed control program, using pre- and post-emergent herbicides.</p>

PRIORITIES

Table 6, cont.  
Prioritization of Recommendations, continued

Priority	Action
<b>2<sup>nd</sup> Priority, Continued</b>	2.21 Lawn renovation should be undertaken in areas of bare soil.
	2.22 The Cemetery exhibits a severe infestation of fire ants. We recommend a two-step program consisting of broadcast Amdro bait, followed in about 10-14 days by mound treatments where necessary. This treatment should be conducted once or twice per year.
	2.23 Landscape debris must be collected and removed one or two days after it is generated.
	2.24 Leaf management in the Cemetery must be improved. The city should determine if they are using a recycler cutting system to chop grass clippings into fine mulch particles and return them to the ground.
	2.25 Erosion should be controlled on slopes by using a reed-trench terracing system. In other areas, it should be controlled by using mulch (under dense trees), or renovating the existing turf.
	2.26 "Orphan" stones should be documented using a form and collected for short-term safe keeping until their appropriate location is identified through research. In so far as possible, stones should not be allowed to become disassociated with their graves as this effectively loses the grave location.
	2.27 The city should help preserve the historic context of the Cemetery by ensuring stones are repaired rather than being replaced. Where a new stone is desired to improve legibility, it is good practice to maintain the historic stone and inscribe an exact transcription on a granite stone to be laid flat in front of the old stone.
	2.28 Drainage sumps or collection basins should be cleaned of trash, leaves, and silt yearly. At grade ditches should be carefully mowed on a regular basis.
	2.29 The condition and operation of all cemetery drains should be consistently inspected during rainfall periods.
	2.30 Monuments evidencing iron jacking are critical for repair since, left untreated, these stones will rapidly join the ranks of those that are broken.
	2.31 The cleaning of the worst soiled stones in the cemetery using D/2 Biological Solution should be undertaken by volunteers. This will dramatically improve overall appearance and provide a very visible improvement to the cemetery landscape.
	2.32 Walls in poor condition should receive second priority repairs. Walls currently in satisfactory condition should be placed on a maintenance program with 10 evaluated and repaired as needed every year.
	2.33 The soil covering all fences should be cut back from contact with the iron.
	2.34 Fences currently not painted require caulking, priming with Rust Reformer, and two top coats of an alkyd flat black paint.



Table 6, cont..  
 Prioritization of Recommendations, continued

Priority	Action
<b>3rd Priority</b>	<p>3.1 Historic research should focus on the development of the cemetery with an end result suitable for various public education needs. Particular research topics should include council and other city records, as well as newspaper accounts. Both are excellent volunteer opportunities.</p> <p>3.2 The city should partner with other organizations to develop at least quarterly programs in the cemetery.</p> <p>3.3 The cemetery should replace all hose bibbs with Woodward Tamper Resistant Freezeless Yard Hydrants protected by bollards.</p> <p>3.4 Core aeration should be conducted in selected areas of the cemetery, focusing on compacted areas, bare soil areas, and areas requiring the addition of organic matter. This should be following by reseeding.</p> <p>3.5 The city should prohibit the creation of graveled plots and an effort should be made to convert currently graveled plots to grass.</p> <p>3.6 The city and the foundation should invest in Georgia Roadside Historical Markers for the cemetery.</p> <p>3.7 Themed section and street signage should be installed.</p> <p>3.8 Plot curbs or coping throughout the cemetery are in deteriorating condition, posing a hazard to the public and detracting from the beauty of the cemetery. The repair of these curbs must be viewed as routine maintenance and must be integrated into the maintenance plan.</p> <p>3.9 The repair of broken stones is the least critical conservation concern. These stones are unlikely to deteriorate further in the course of a 5-year plan.</p> <p>3.10 Fences with failing paint require scraping, caulking, priming and a top coat of an alkyd flat black paint.</p>

## PRIORITIES

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